PATENT
Attorney Docket No. 205654

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:

Kovesdi et al.

Group Art Unit: not assigned

Application No. not assigned

Examiner: not assigned

Filing Date: April 10, 2001

For: VEGF FUSION PROTEINS

SUBMISSION OF NUCLEOTIDE/AMINO ACID SEQUENCE DISCLOSURES AND STATEMENT UNDER 37 C.F.R. §§ 1.821-1.825

Commissioner for Patents
Washington, D.C. 20231

Dear Sir:

In accordance with the requirements of 37 CFR 1.821-1.825, a sequence listing is being submitted as part of the patent application. The sequence listing is in the form of both a paper copy and a computer readable copy on a computer diskette. The undersigned hereby verifies that the content of the paper copy and the computer readable copy, as concurrently being submitted, are the same.

Respectfully submitted,

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Date: April 10, 2001

SEQUENCE LISTING

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Kessler, Paul

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Tyr Met Leu Arg Ile Glu Leu Met Asp Trp Glu Gly Asn Arg Ala Tyr
65 70 75 80

Ser Gln Tyr Asp Arg Phe His Ile Gly Asn Glu Lys Gln Asn Tyr Arg
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Thr Asp Val Glu Thr Gln Val Leu Asn Gln Thr Ser Arg Leu Glu Ile
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Gln Leu Leu Glu Asn Ser Leu Ser Thr Tyr Lys Leu Glu Lys Gln Leu
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Gln Thr Tyr Ile Ile Gln Glu Leu Glu Lys Gln Leu Asn Arg Ala Thr
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Thr Asn Asn Ser Val Leu Gln Lys Gln Gln Leu Glu Leu Met Asp Thr
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35 40 45

Arg His Asp Gly Ser Val Asp Phe Asn Arg Pro Trp Glu Ala Tyr Lys
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Ala Gly Phe Gly Asp Pro His Gly Glu Phe Trp Leu Gly Leu Glu Lys
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Val His Ser Ile Met Gly Asp Arg Asn Ser Arg Leu Ala Val Gln Leu
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Arg Asp Trp Asp Gly Asn Ala Glu Leu Leu Gln Phe Ser Val His Leu
100 105 110

Gly Gly Glu Asp Thr Ala Tyr Ser Leu Gln Leu Thr Ala Pro Val Ala
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Gly Gln Leu Gly Ala Thr Thr Val Pro Pro Ser Gly Leu Ser Val Pro
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Phe Ser Thr Trp Asp Gln Asp His Asp Leu Arg Arg Asp Lys Asn Cys
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Ile Ile Gln Arg Arg Glu Asp Gly Ser Val Asp Phe Gln Arg Thr Trp
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Gly Asn Glu Phe Val Ser Gln Leu Thr Asn Gln Gln Arg Tyr Val Leu
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Glu His Phe Tyr Leu Ser Ser Glu Glu Leu Asn Tyr Arg Ile His Leu
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Gly Asn Asp Phe Ser Thr Lys Asp Gly Asp Asn Asp Lys Cys Ile Cys
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Lys Cys Ser Gln Met Leu Thr Gly Gly Trp Trp Phe Asp Ala Cys Gly
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Pro Ser Asn Leu Asn Gly Met Tyr Tyr Pro Gln Arg Gln Asn Thr Asn
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Gly Trp Leu Val Phe Gln Arg Arg Gln Asp Gly Ser Val Asp Phe Phe
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Phe Trp Leu Gly Asn Glu Asn Leu His Gln Leu Thr Leu Gln Gly Asn
85 90 95

Trp Glu Leu Arg Val Glu Leu Glu Asp Phe Asn Gly Asn Arg Thr Phe
100 105 110

Ala His Tyr Ala Thr Phe Arg Leu Leu Gly Glu Val Asp His Tyr Gln
115 120 125

Leu Ala Leu Gly Lys Phe Ser Glu Gly Thr Ala Gly Asp Ser Leu Ser
130 135 140

Leu His Ser Gly Arg Pro Phe Thr Thr Tyr Asp Ala Asp His Asp Ser
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Ser Cys Tyr Arg Ser Asn Leu Asn Gly Arg Tyr Ala Val Ser Glu Ala
180 185 190

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Lys Ser Gly Leu Val Ser Phe Tyr Arg Asp Trp Lys Gln Tyr Lys Gln
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Asn Glu Leu Asn Ser Tyr Arg Leu Phe Leu Gly Asn Tyr Thr Gly Asn
        115                 120                 125

Val Gly Asn Asp Ala Leu Gln Tyr His Asn Asn Thr Ala Phe Ser Thr
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Lys Asp Lys Asp Asn Asp Asn Cys Leu Asp Lys Cys Ala Gln Leu Arg
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Lys Gly Gly Tyr Trp Tyr Asn Cys Cys Thr Asp Ser Asn Leu Asn Gly
                165                 170                 175

Val Tyr Tyr Arg Leu Gly Glu His Asn Lys His Leu Asp Gly Ile Thr
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Asp Gly Val Tyr Trp Ala Glu Phe Arg Gly Gly Ala Tyr Ser Leu Arg
        195                 200                 205

Lys Ala Ala Met Leu Ile Arg Pro Leu Lys Leu
    210                 215

<210>  25
<211>  215
<212>  PRT
<213>  Homo sapiens

<400>  25

Leu Pro Arg Asp Cys Gln Glu Leu Phe Gln Val Gly Glu Arg Gln Ser
1               5                   10                  15

Gly Leu Phe Glu Ile Gln Pro Gln Gly Ser Pro Pro Phe Leu Val Asn
            20                  25                  30

Cys Lys Met Thr Ser Asp Gly Gly Trp Thr Val Ile Gln Arg Arg His
        35                  40                  45

Asp Gly Ser Val Asp Phe Asn Arg Pro Trp Glu Ala Tyr Lys Ala Gly
    50                  55                  60

Phe Gly Asp Pro His Gly Glu Phe Trp Leu Gly Leu Glu Lys Val His
65                  70                  75                  80

Ser Ile Thr Gly Asp Arg Asn Ser Arg Leu Ala Val Gln Leu Arg Asp
                85                  90                  95

Trp Asp Gly Asn Ala Glu Leu Leu Gln Phe Ser Val His Leu Gly Gly
            100                 105                 110

Glu Asp Thr Ala Tyr Ser Leu Gln Leu Thr Ala Pro Val Ala Gly Gln
        115                 120                 125

Leu Gly Ala Thr Thr Val Pro Pro Ser Gly Leu Ser Val Pro Phe Ser
    130                 135                 140

Thr Trp Asp Gln Asp His Asp Leu Arg Arg Asp Lys Asn Cys Ala Lys
145                 150                 155                 160

Ser Leu Ser Gly Gly Trp Trp Phe Gly Thr Cys Ser His Ser Asn Leu
                165                 170                 175
```

```
Asn Gly Gln Tyr Phe Arg Ser Ile Pro Gln Gln Arg Gln Lys Leu Lys
            180                 185                 190

Lys Gly Ile Phe Trp Lys Thr Trp Arg Gly Arg Tyr Tyr Pro Leu Gln
        195                 200                 205

Ala Thr Thr Met Leu Ile Gln
    210                 215
```

<210> 26
<211> 222
<212> PRT
<213> Artificial/Unknown

<220>
<221> misc_feature
<222> ()..()
<223> Source not known

<400> 26

```
Pro Arg Asp Cys Gln Glu Leu Phe Gln Val Gly Glu Arg Gln Ser Gly
1               5                   10                  15

Leu Phe Glu Ile Gln Pro Gln Gly Ser Pro Pro Phe Leu Val Asn Cys
            20                  25                  30

Lys Met Thr Ser Asp Gly Gly Trp Thr Val Ile Gln Arg Arg His Asp
        35                  40                  45

Gly Ser Val Asp Phe Asn Arg Pro Trp Glu Ala Tyr Lys Ala Gly Phe
    50                  55                  60

Gly Asp Pro His Gly Glu Phe Trp Leu Gly Leu Glu Lys Val His Ser
65                  70                  75                  80

Ile Thr Gly Asp Arg Asn Ser Arg Leu Ala Val Gln Leu Arg Asp Trp
                85                  90                  95

Asp Gly Asn Ala Glu Leu Leu Gln Phe Ser Val His Leu Gly Gly Glu
            100                 105                 110

Asp Thr Ala Tyr Ser Leu Gln Leu Thr Ala Pro Val Ala Gly Gln Leu
        115                 120                 125

Gly Ala Thr Thr Val Pro Pro Ser Gly Leu Ser Val Pro Phe Ser Thr
    130                 135                 140

Trp Asp Gln Asp His Asp Leu Arg Arg Asp Lys Asn Cys Ala Lys Ser
145                 150                 155                 160

Leu Ser Gly Gly Trp Trp Phe Gly Thr Cys Ser His Ser Asn Leu Asn
                165                 170                 175

Gly Gln Tyr Phe Arg Ser Ile Pro Gln Gln Arg Gln Lys Leu Lys Lys
            180                 185                 190

Gly Ile Phe Trp Lys Thr Trp Arg Gly Arg Tyr Tyr Pro Leu Gln Ala
```

```
        195                 200                 205

Thr Thr Met Leu Ile Gln Pro Met Ala Ala Glu Ala Ala Ser
    210                 215                 220
```

<210> 27
<211> 222
<212> PRT
<213> Artificial/Unknown

<220>
<221> misc_feature
<222> ()..()
<223> Source not known

<400> 27

```
His Asp Gly Ile Pro Ala Glu Cys Thr Thr Ile Tyr Asn Arg Gly Glu
1               5                   10                  15

His Thr Ser Gly Met Tyr Ala Ile Arg Pro Ser Asn Ser Gln Val Phe
            20                  25                  30

His Val Tyr Cys Asp Val Ile Ser Gly Ser Pro Trp Thr Leu Ile Gln
        35                  40                  45

His Arg Ile Asp Gly Ser Gln Asn Phe Asn Glu Thr Trp Glu Asn Tyr
    50                  55                  60

Lys Tyr Gly Phe Gly Arg Leu Asp Gly Glu Phe Trp Leu Gly Leu Glu
65                  70                  75                  80

Lys Ile Tyr Ser Ile Val Lys Gln Ser Asn Tyr Val Leu Arg Ile Glu
                85                  90                  95

Leu Glu Asp Trp Lys Asp Asn Lys His Tyr Ile Glu Tyr Ser Phe Tyr
            100                 105                 110

Leu Gly Asn His Glu Thr Asn Tyr Thr Leu His Leu Val Ala Ile Thr
        115                 120                 125

Gly Asn Val Pro Asn Ala Ile Pro Glu Asn Lys Asp Leu Val Phe Ser
    130                 135                 140

Thr Trp Asp His Lys Ala Lys Gly His Phe Asn Cys Pro Glu Gly Tyr
145                 150                 155                 160

Ser Gly Gly Trp Trp Trp His Asp Glu Cys Gly Glu Asn Asn Leu Asn
                165                 170                 175

Gly Lys Tyr Asn Lys Pro Arg Ala Lys Ser Lys Pro Glu Arg Arg Arg
            180                 185                 190

Gly Leu Ser Trp Lys Ser Gln Asn Gly Arg Leu Tyr Ser Ile Lys Ser
        195                 200                 205

Thr Lys Met Leu Ile His Pro Thr Asp Ser Glu Ser Phe Glu
    210                 215                 220
```

<210> 28
<211> 214
<212> PRT
<213> Mus musculus

<400> 28

```
Arg Asp Cys Gln Glu Leu Phe Gln Glu Gly Glu Arg His Ser Gly Leu
1               5                  10                  15

Phe Gln Ile Gln Pro Leu Gly Ser Pro Pro Phe Leu Val Asn Cys Glu
            20                  25                  30

Met Thr Ser Asp Gly Gly Trp Thr Val Ile Gln Arg Arg Leu Asn Gly
        35                  40                  45

Ser Val Asp Phe Asn Gln Ser Trp Glu Ala Tyr Lys Asp Gly Phe Gly
    50                  55                  60

Asp Pro Gln Gly Glu Phe Trp Leu Gly Leu Glu Lys Met His Ser Ile
65                  70                  75                  80

Thr Gly Asn Arg Gly Ser Gln Leu Ala Val Gln Leu Gln Asp Trp Asp
                85                  90                  95

Gly Asn Ala Lys Leu Leu Gln Phe Pro Ile His Leu Gly Gly Glu Asp
            100                 105                 110

Thr Ala Tyr Ser Leu Gln Leu Thr Glu Pro Thr Ala Asn Glu Leu Gly
        115                 120                 125

Ala Thr Asn Val Ser Pro Asn Gly Leu Ser Leu Pro Phe Ser Thr Trp
    130                 135                 140

Asp Gln Asp His Asp Leu Arg Gly Asp Leu Asn Cys Ala Lys Ser Leu
145                 150                 155                 160

Ser Gly Gly Trp Trp Phe Gly Thr Cys Ser His Ser Asn Leu Asn Gly
                165                 170                 175

Gln Tyr Phe His Ser Ile Pro Arg Gln Arg Gln Glu Arg Lys Lys Gly
            180                 185                 190

Ile Phe Trp Lys Thr Trp Lys Gly Arg Tyr Tyr Pro Leu Gln Ala Thr
        195                 200                 205

Thr Leu Leu Ile Gln Pro
    210
```

<210> 29
<211> 216
<212> PRT
<213> Homo sapiens

<400> 29

```
Phe Gln Asp Cys Ala Glu Ile Lys Arg Ser Gly Val Asn Thr Ser Gly
1               5                  10                  15
```

```
Val Tyr Thr Ile Tyr Glu Thr Asn Met Thr Lys Pro Leu Lys Val Phe
            20                  25                  30

Cys Asp Met Glu Thr Asp Gly Gly Gly Trp Thr Leu Ile Gln His Arg
        35                  40                  45

Glu Asp Gly Ser Val Asn Phe Gln Arg Thr Trp Glu Glu Tyr Lys Glu
    50                  55                  60

Gly Phe Gly Asn Val Ala Arg Glu His Trp Leu Gly Asn Glu Ala Val
65                  70                  75                  80

His Arg Leu Thr Ser Arg Thr Ala Tyr Leu Leu Arg Val Glu Leu His
                85                  90                  95

Asp Trp Glu Gly Arg Gln Thr Ser Ile Gln Tyr Glu Asn Phe Gln Leu
            100                 105                 110

Gly Ser Glu Arg Gln Arg Tyr Ser Leu Ser Val Asn Asp Ser Ser Ser
        115                 120                 125

Ser Ala Gly Arg Lys Asn Ser Leu Ala Pro Gln Gly Thr Lys Phe Ser
    130                 135                 140

Thr Lys Asp Met Asp Asn Asp Asn Cys Met Cys Lys Cys Ala Gln Met
145                 150                 155                 160

Leu Ser Gly Gly Trp Trp Phe Asp Ala Cys Gly Leu Ser Asn Leu Asn
                165                 170                 175

Gly Ile Tyr Tyr Ser Val His Gln His Leu His Lys Ile Asn Gly Ile
            180                 185                 190

Arg Trp His Tyr Phe Arg Gly Pro Ser Tyr Ser Leu His Gly Thr Arg
        195                 200                 205

Met Met Leu Arg Pro Met Gly Ala
    210                 215
```

<210> 30
<211> 216
<212> PRT
<213> Homo sapiens

<400> 30

```
Phe Gln Asp Cys Ala Glu Ile Gln Arg Ser Gly Ala Ser Ala Ser Gly
1               5                   10                  15

Val Tyr Thr Ile Gln Val Ser Asn Ala Thr Lys Pro Arg Lys Val Phe
            20                  25                  30

Cys Asp Leu Gln Ser Ser Gly Gly Arg Trp Thr Leu Ile Gln Arg Arg
        35                  40                  45

Glu Asn Gly Thr Val Asn Phe Gln Arg Asn Trp Lys Asp Tyr Lys Gln
    50                  55                  60

Gly Phe Gly Asp Pro Ala Gly Glu His Trp Leu Gly Asn Glu Val Val
```

65 70 75 80

His Gln Leu Thr Arg Arg Ala Ala Tyr Ser Leu Arg Val Glu Leu Gln
85 90 95

Asp Trp Glu Gly His Glu Ala Tyr Ala Gln Tyr Glu His Phe His Leu
100 105 110

Gly Ser Glu Asn Gln Leu Tyr Arg Leu Ser Val Val Gly Tyr Ser Gly
115 120 125

Ser Ala Gly Arg Gln Ser Ser Leu Val Leu Gln Asn Thr Ser Phe Ser
130 135 140

Thr Leu Asp Ser Asp Asn Asp His Cys Leu Cys Lys Cys Ala Gln Val
145 150 155 160

Met Ser Gly Gly Trp Trp Phe Asp Ala Cys Gly Leu Ser Asn Leu Asn
165 170 175

Gly Val Tyr Tyr His Ala Pro Asp Asn Lys Tyr Lys Met Asp Gly Ile
180 185 190

Arg Trp His Tyr Phe Lys Gly Pro Ser Tyr Ser Leu Arg Ala Ser Arg
195 200 205

Met Met Ile Arg Pro Leu Asp Ile
210 215

<210> 31
<211> 224
<212> PRT
<213> Homo sapiens

<400> 31

Lys Pro Ser Gly Pro Trp Arg Asp Cys Leu Gln Ala Leu Glu Asp Gly
1 5 10 15

His Asp Thr Ser Ser Ile Tyr Leu Val Lys Pro Glu Asn Thr Asn Arg
20 25 30

Leu Met Gln Val Trp Cys Asp Gln Arg His Asp Pro Gly Gly Trp Thr
35 40 45

Val Ile Gln Arg Arg Leu Asp Gly Ser Val Asn Phe Phe Arg Asn Trp
50 55 60

Glu Thr Tyr Lys Gln Gly Phe Gly Asn Ile Asp Gly Glu Tyr Trp Leu
65 70 75 80

Gly Leu Glu Asn Ile Tyr Trp Leu Thr Asn Gln Gly Asn Tyr Lys Leu
85 90 95

Leu Val Thr Met Glu Asp Trp Ser Gly Arg Lys Val Phe Ala Glu Tyr
100 105 110

Ala Ser Phe Arg Leu Glu Pro Glu Ser Glu Tyr Tyr Lys Leu Arg Leu
115 120 125

```
Gly Arg Tyr His Gly Asn Ala Gly Asp Ser Phe Thr Trp His Asn Gly
    130                 135                 140

Lys Gln Phe Thr Thr Leu Asp Arg Asp His Asp Val Tyr Thr Gly Asn
145                 150                 155                 160

Cys Ala His Tyr Gln Lys Gly Gly Trp Trp Tyr Asn Ala Cys Ala His
                165                 170                 175

Ser Asn Leu Asn Gly Val Trp Tyr Arg Gly Gly His Tyr Arg Ser Arg
            180                 185                 190

Tyr Gln Asp Gly Val Tyr Trp Ala Glu Phe Arg Gly Gly Ser Tyr Ser
        195                 200                 205

Leu Lys Lys Val Val Met Met Ile Arg Pro Asn Pro Asn Thr Phe His
    210                 215                 220
```

<210> 32
<211> 220
<212> PRT
<213> Homo sapiens

<400> 32

```
Ile Asn Glu Gly Pro Phe Lys Asp Cys Gln Gln Ala Lys Glu Ala Gly
1               5                   10                  15

His Ser Val Ser Gly Ile Tyr Met Ile Lys Pro Glu Asn Ser Asn Gly
            20                  25                  30

Pro Met Gln Leu Trp Cys Glu Asn Ser Leu Asp Pro Gly Gly Trp Thr
        35                  40                  45

Val Ile Gln Lys Arg Thr Asp Gly Ser Val Asn Phe Phe Arg Asn Trp
    50                  55                  60

Glu Asn Tyr Lys Lys Gly Phe Gly Asn Ile Asp Gly Glu Tyr Trp Leu
65                  70                  75                  80

Gly Leu Glu Asn Ile Tyr Met Leu Ser Asn Gln Asp Asn Tyr Lys Leu
                85                  90                  95

Leu Ile Glu Leu Glu Asp Trp Ser Asp Lys Lys Val Tyr Ala Glu Tyr
            100                 105                 110

Ser Ser Phe Arg Leu Glu Pro Glu Ser Glu Phe Tyr Arg Leu Arg Leu
        115                 120                 125

Gly Thr Tyr Gln Gly Asn Ala Gly Asp Ser Met Met Trp His Asn Gly
    130                 135                 140

Lys Gln Phe Thr Thr Leu Asp Arg Asp Lys Asp Met Tyr Ala Gly Asn
145                 150                 155                 160

Cys Ala His Phe His Lys Gly Gly Trp Trp Tyr Asn Ala Cys Ala His
                165                 170                 175
```

```
Ser Asn Leu Asn Gly Val Trp Tyr Arg Gly Gly His Tyr Arg Ser Lys
            180                 185                 190

His Gln Asp Gly Ile Phe Trp Ala Glu Tyr Arg Gly Gly Ser Tyr Ser
        195                 200                 205

Leu Arg Ala Val Gln Met Met Ile Lys Pro Ile Asp
    210                 215                 220
```

<210> 33
<211> 136
<212> PRT
<213> Homo sapiens

<400> 33

```
Gly Lys Lys Glu Lys Pro Glu Lys Lys Val Lys Lys Ser Asp Cys Gly
1               5                   10                  15

Glu Trp Gln Trp Ser Val Cys Val Pro Thr Ser Gly Asp Cys Gly Leu
            20                  25                  30

Gly Thr Arg Glu Gly Thr Arg Thr Gly Ala Glu Cys Lys Gln Thr Met
        35                  40                  45

Lys Thr Gln Arg Cys Lys Ile Pro Cys Asn Trp Lys Lys Gln Phe Gly
    50                  55                  60

Ala Glu Cys Lys Tyr Gln Phe Gln Ala Trp Gly Glu Cys Asp Leu Asn
65                  70                  75                  80

Thr Ala Leu Lys Thr Arg Thr Gly Ser Leu Lys Arg Ala Leu His Asn
                85                  90                  95

Ala Glu Cys Gln Lys Thr Val Thr Ile Ser Lys Pro Cys Gly Lys Leu
            100                 105                 110

Thr Lys Pro Lys Pro Gln Ala Glu Ser Lys Lys Lys Lys Lys Glu Gly
        115                 120                 125

Lys Lys Gln Glu Lys Met Leu Asp
    130                 135
```

<210> 34
<211> 121
<212> PRT
<213> Homo sapiens

<400> 34

```
Lys Lys Lys Asp Lys Val Lys Lys Gly Gly Pro Gly Ser Glu Cys Ala
1               5                   10                  15

Glu Trp Ala Trp Gly Pro Cys Thr Pro Ser Ser Lys Asp Cys Gly Val
            20                  25                  30

Gly Phe Arg Glu Gly Thr Cys Gly Ala Gln Thr Gln Arg Ile Arg Cys
        35                  40                  45
```

```
Arg Val Pro Cys Asn Trp Lys Lys Glu Phe Gly Ala Asp Cys Lys Tyr
    50                  55                  60

Lys Phe Glu Asn Trp Gly Ala Cys Asp Gly Gly Thr Gly Thr Lys Val
65                  70                  75                  80

Arg Gln Gly Thr Leu Lys Lys Ala Arg Tyr Asn Ala Gln Cys Gln Glu
                85                  90                  95

Thr Ile Arg Val Thr Lys Pro Cys Thr Pro Lys Thr Lys Ala Lys Ala
            100                 105                 110

Lys Ala Lys Lys Gly Lys Gly Lys Asp
        115                 120
```

<210> 35
<211> 43
<212> PRT
<213> Homo sapiens

<400> 35

```
Cys Lys Tyr Gln Phe Gln Ala Trp Gly Glu Cys Asp Leu Asn Thr Ala
1               5                   10                  15

Leu Lys Thr Arg Thr Gly Ser Leu Lys Arg Ala Leu His Asn Ala Glu
            20                  25                  30

Cys Gln Lys Thr Val Thr Ile Ser Lys Pro Cys
        35                  40
```

<210> 36
<211> 54
<212> PRT
<213> Homo sapiens

<400> 36

```
Ala Glu Cys Lys Tyr Gln Phe Gln Ala Trp Gly Glu Cys Asp Leu Asn
1               5                   10                  15

Thr Ala Leu Lys Thr Arg Thr Gly Ser Leu Lys Arg Ala Leu His Asn
            20                  25                  30

Ala Glu Cys Gln Lys Thr Val Thr Ile Ser Lys Pro Cys Gly Lys Leu
        35                  40                  45

Thr Lys Pro Lys Pro Gln
    50
```

<210> 37
<211> 72
<212> PRT
<213> Homo sapiens

<400> 37

```
Ala Glu Cys Lys Tyr Gln Phe Gln Ala Trp Gly Glu Cys Asp Leu Asn
1               5                   10                  15
```

Thr Ala Leu Lys Thr Arg Thr Gly Ser Leu Lys Arg Ala Leu His Asn
20 25 30

Ala Glu Cys Gln Lys Thr Val Thr Ile Ser Lys Pro Cys Gly Lys Leu
35 40 45

Thr Lys Pro Lys Pro Gln Ala Glu Ser Lys Lys Lys Lys Lys Glu Gly
50 55 60

Lys Lys Gln Glu Lys Met Leu Asp
65 70

<210> 38
<211> 80
<212> PRT
<213> Homo sapiens

<400> 38

Cys Gly Glu Trp Thr Trp Gly Pro Cys Ile Pro Asn Ser Lys Asp Cys
1 5 10 15

Gly Leu Gly Thr Arg Glu Gly Thr Cys Lys Gln Glu Thr Arg Lys Leu
20 25 30

Lys Cys Lys Ile Pro Cys Asn Trp Lys Lys Gln Phe Gly Ala Asp Cys
35 40 45

Lys Tyr Lys Phe Glu Ser Trp Gly Glu Cys Asp Ala Asn Thr Gly Leu
50 55 60

Lys Thr Arg Ser Gly Thr Leu Lys Lys Ala Leu Tyr Asn Ala Asp Cys
65 70 75 80

<210> 39
<211> 21
<212> PRT
<213> Homo sapiens

<400> 39

Gly Lys Lys Glu Lys Pro Glu Lys Lys Val Lys Lys Ser Asp Cys Gly
1 5 10 15

Glu Trp Gln Trp Ser
20

<210> 40
<211> 16
<212> PRT
<213> Homo sapiens

<400> 40

Ser Lys Lys Lys Lys Lys Glu Gly Lys Lys Gln Glu Lys Met Leu Asp
1 5 10 15

<210> 41

<211> 61
<212> PRT
<213> Homo sapiens

<400> 41

Asp Cys Lys Tyr Lys Phe Glu Asn Trp Gly Ala Cys Asp Gly Gly Thr
1 5 10 15

Gly Thr Lys Val Arg Gln Gly Thr Leu Lys Lys Ala Arg Tyr Asn Ala
20 25 30

Gln Cys Gln Glu Thr Ile Arg Val Thr Lys Pro Cys Thr Pro Lys Thr
35 40 45

Lys Ala Lys Ala Lys Ala Lys Lys Gly Lys Gly Lys Asp
50 55 60

<210> 42
<211> 42
<212> PRT
<213> Homo sapiens

<400> 42

Lys Tyr Lys Phe Glu Asn Trp Gly Ala Cys Asp Gly Gly Thr Gly Thr
1 5 10 15

Lys Val Arg Gln Gly Thr Leu Lys Lys Ala Arg Tyr Asn Ala Gln Cys
20 25 30

Gln Glu Thr Ile Arg Val Thr Lys Pro Cys
35 40

<210> 43
<211> 32
<212> PRT
<213> Homo sapiens

<400> 43

Met Gln Ala Gln Gln Tyr Gln Gln Gln Arg Arg Lys Phe Ala Ala Ala
1 5 10 15

Phe Leu Ala Phe Ile Phe Ile Leu Ala Ala Val Asp Thr Ala Glu Ala
20 25 30

<210> 44
<211> 20
<212> PRT
<213> Homo sapiens

<400> 44

Met Gln His Arg Gly Phe Leu Leu Leu Thr Leu Leu Ala Leu Leu Ala
1 5 10 15

Leu Thr Ser Ala
20

<210> 45
<211> 139
<212> PRT
<213> Homo sapiens

<400> 45

Phe Asn Leu Pro Pro Gly Asn Tyr Lys Lys Pro Lys Leu Leu Tyr Cys
1 5 10 15

Ser Asn Gly Gly His Phe Leu Arg Ile Leu Pro Asp Gly Thr Val Asp
20 25 30

Gly Thr Arg Asp Arg Ser Asp Gln His Ile Gln Leu Gln Leu Ser Ala
35 40 45

Glu Ser Val Gly Glu Val Tyr Ile Lys Ser Thr Glu Thr Gly Gln Tyr
50 55 60

Leu Ala Met Asp Thr Asp Gly Leu Leu Tyr Gly Ser Gln Thr Pro Asn
65 70 75 80

Glu Glu Cys Leu Phe Leu Glu Arg Leu Glu Glu Asn His Tyr Asn Thr
85 90 95

Tyr Ile Ser Lys Lys His Ala Glu Lys Asn Trp Phe Val Gly Leu Lys
100 105 110

Lys Asn Gly Ser Cys Lys Arg Gly Pro Arg Thr His Tyr Gly Gln Lys
115 120 125

Ala Ile Leu Phe Leu Pro Leu Pro Val Ser Ser
130 135

<210> 46
<211> 15
<212> PRT
<213> Homo sapiens

<400> 46

Met Ala Glu Gly Glu Ile Thr Thr Phe Thr Ala Leu Thr Glu Lys
1 5 10 15

<210> 47
<211> 8
<212> PRT
<213> Homo sapiens

<400> 47

Lys Lys Asn Gly Ser Cys Lys Arg
1 5

<210> 48
<211> 13
<212> PRT
<213> Artificial/Unknown

<220>
<221> misc_feature
<222> ()..()
<223> Synthetic

<220>
<221> misc_feature
<222> (5)..(5)
<223> "Xaa" may be between 5 and 7 of any amino acids

<220>
<221> misc_feature
<222> (7)..(9)
<223> "Xaa" may be any amino acid

<400> 48

Arg Leu Tyr Cys Xaa Leu Xaa Xaa Xaa Pro Asp Gly Arg
1 5 10

<210> 49
<211> 4
<212> PRT
<213> Homo sapiens

<400> 49

Ile Ser Ser Lys
1

<210> 50
<211> 5
<212> PRT
<213> Homo sapiens

<400> 50

Lys Lys Pro Lys Leu
1 5

<210> 51
<211> 535
<212> PRT
<213> Homo sapiens

<400> 51

Met Leu Gly Pro Cys Met Leu Leu Leu Leu Leu Leu Leu Gly Leu Arg
1 5 10 15

Leu Gln Leu Ser Leu Gly Ile Ile Pro Val Glu Glu Glu Asn Pro Asp
20 25 30

Phe Trp Asn Arg Glu Ala Ala Glu Ala Leu Gly Ala Ala Lys Lys Leu
35 40 45

Gln Pro Ala Gln Thr Ala Ala Lys Asn Leu Ile Ile Phe Leu Gly Asp
50 55 60

```
Gly Met Gly Val Ser Thr Val Thr Ala Ala Arg Ile Leu Lys Gly Gln
65                  70                  75                  80

Lys Lys Asp Lys Leu Gly Pro Glu Ile Pro Leu Ala Met Asp Arg Phe
                85                  90                  95

Pro Tyr Val Ala Leu Ser Lys Thr Tyr Asn Val Asp Lys His Val Pro
            100                 105                 110

Asp Ser Gly Ala Thr Ala Thr Ala Tyr Leu Cys Gly Val Lys Gly Asn
        115                 120                 125

Phe Gln Thr Ile Gly Leu Ser Ala Ala Ala Arg Phe Asn Gln Cys Asn
    130                 135                 140

Thr Thr Arg Gly Asn Glu Val Ile Ser Val Met Asn Arg Ala Lys Lys
145                 150                 155                 160

Ala Gly Lys Ser Val Gly Val Val Thr Thr Thr Arg Val Gln His Ala
                165                 170                 175

Ser Pro Ala Gly Thr Tyr Ala His Thr Val Asn Arg Asn Trp Tyr Ser
            180                 185                 190

Asp Ala Asp Val Pro Ala Ser Ala Arg Gln Glu Gly Cys Gln Asp Ile
        195                 200                 205

Ala Thr Gln Leu Ile Ser Asn Met Asp Ile Asp Val Ile Leu Gly Gly
    210                 215                 220

Gly Arg Lys Tyr Met Phe Arg Met Gly Thr Pro Asp Pro Glu Tyr Pro
225                 230                 235                 240

Asp Asp Tyr Ser Gln Gly Gly Thr Arg Leu Asp Gly Lys Asn Leu Val
                245                 250                 255

Gln Glu Trp Leu Ala Lys Arg Gln Gly Ala Arg Tyr Val Trp Asn Arg
            260                 265                 270

Thr Glu Leu Met Gln Ala Ser Leu Asp Pro Ser Val Thr His Leu Met
        275                 280                 285

Gly Leu Phe Glu Pro Gly Asp Met Lys Tyr Glu Ile His Arg Asp Ser
    290                 295                 300

Thr Leu Asp Pro Ser Leu Met Glu Met Thr Glu Ala Ala Leu Arg Leu
305                 310                 315                 320

Leu Ser Arg Asn Pro Arg Gly Phe Phe Leu Phe Val Glu Gly Gly Arg
                325                 330                 335

Ile Asp His Gly His His Glu Ser Arg Ala Tyr Arg Ala Leu Thr Glu
            340                 345                 350

Thr Ile Met Phe Asp Asp Ala Ile Glu Arg Ala Gly Gln Leu Thr Ser
        355                 360                 365

Glu Glu Asp Thr Leu Ser Leu Val Thr Ala Asp His Ser His Val Phe
```

370 375 380

Ser Phe Gly Gly Tyr Pro Leu Arg Gly Ser Ser Ile Phe Gly Leu Ala
385 390 395 400

Pro Gly Lys Ala Arg Asp Arg Lys Ala Tyr Thr Val Leu Leu Tyr Gly
405 410 415

Asn Gly Pro Gly Tyr Val Leu Lys Asp Gly Ala Arg Pro Asp Val Thr
420 425 430

Glu Ser Glu Ser Gly Ser Pro Glu Tyr Arg Gln Gln Ser Ala Val Pro
435 440 445

Leu Asp Glu Glu Thr His Ala Gly Glu Asp Val Ala Val Phe Ala Arg
450 455 460

Gly Pro Gln Ala His Leu Val His Gly Val Gln Glu Gln Thr Phe Ile
465 470 475 480

Ala His Val Met Ala Phe Ala Ala Cys Leu Glu Pro Tyr Thr Ala Cys
485 490 495

Asp Leu Ala Pro Pro Ala Gly Thr Thr Asp Ala Ala His Pro Gly Arg
500 505 510

Ser Val Val Pro Ala Leu Leu Pro Leu Leu Ala Gly Thr Leu Leu Leu
515 520 525

Leu Glu Thr Ala Thr Ala Pro
530 535

<210> 52
<211> 22
<212> PRT
<213> Homo sapiens

<400> 52

Met Leu Gly Pro Cys Met Leu Leu Leu Leu Leu Leu Leu Gly Leu Arg
1 5 10 15

Leu Gln Leu Ser Leu Gly
20

<210> 53
<211> 29
<212> PRT
<213> Homo sapiens

<400> 53

Ala Ala His Pro Gly Arg Ser Val Val Pro Ala Leu Leu Pro Leu Leu
1 5 10 15

Ala Gly Thr Leu Leu Leu Leu Glu Thr Ala Thr Ala Pro
20 25

<210> 54

<211> 108
<212> PRT
<213> Homo sapiens

<400> 54

Gly Met Gly Val Ser Thr Val Thr Ala Ala Arg Ile Leu Lys Gly Gln
1 5 10 15

Lys Lys Asp Lys Leu Gly Pro Glu Ile Pro Leu Ala Met Asp Arg Phe
20 25 30

Pro Tyr Val Ala Leu Ser Lys Thr Tyr Asn Val Asp Lys His Val Pro
35 40 45

Asp Ser Gly Ala Thr Ala Thr Ala Tyr Leu Cys Gly Val Lys Gly Asn
50 55 60

Phe Gln Thr Ile Gly Leu Ser Ala Ala Ala Arg Phe Asn Gln Cys Asn
65 70 75 80

Thr Thr Arg Gly Asn Glu Val Ile Ser Val Met Asn Arg Ala Lys Lys
85 90 95

Ala Gly Lys Ser Val Gly Val Val Thr Thr Thr Arg
100 105

<210> 55
<211> 20
<212> PRT
<213> Artificial/Unknown

<220>
<221> misc_feature
<222> ()..()
<223> Synthetic

<220>
<221> misc_feature
<222> (8)..(8)
<223> "Xaa" may be any amino acid

<400> 55

Ala Gln Val Pro Asp Ser Ala Xaa Thr Ala Thr Ala Tyr Leu Cys Gly
1 5 10 15

Val Lys Ala Asn
20

<210> 56
<211> 86
<212> PRT
<213> Artificial/Unknown

<220>
<221> misc_feature
<222> ()..()
<223> Synthetic

<220>
<221> misc_feature
<222> (7)..(7)
<223> "Xaa" may be any amino acid

<220>
<221> misc_feature
<222> (30)..(30)
<223> "Xaa" may be any amino acid

<220>
<221> misc_feature
<222> (33)..(34)
<223> "Xaa" may be any amino acid

<220>
<221> misc_feature
<222> (36)..(36)
<223> "Xaa" may be any amino acid

<220>
<221> misc_feature
<222> (39)..(39)
<223> "Xaa" may be any amino acid

<220>
<221> misc_feature
<222> (41)..(41)
<223> "Xaa" may be any amino acid

<220>
<221> misc_feature
<222> (44)..(44)
<223> "Xaa" may be any amino acid

<220>
<221> misc_feature
<222> (47)..(47)
<223> "Xaa" may be any amino acid

<220>
<221> misc_feature
<222> (56)..(57)
<223> "Xaa" may be any amino acid

<220>
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<223> "Xaa" may be any amino acid

<220>
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<223> "Xaa" may be any amino acid

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<223> "Xaa" may be any amino acid

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<223> "Xaa" may be any amino acid

<400> 56

Thr Asn Val Ala Lys Asn Xaa Ile Met Phe Leu Gly Asp Gly Met Gly
1 5 10 15

Val Ser Thr Val Thr Ala Ala Arg Ile Leu Lys Gly Gln Xaa His His
20 25 30

Xaa Xaa Gly Xaa Glu Thr Xaa Leu Xaa Met Asp Xaa Phe Pro Xaa Val
35 40 45

Ala Leu Ser Lys Thr Tyr Asn Xaa Xaa Ala Gln Val Pro Asp Ser Ala
50 55 60

Xaa Thr Ala Thr Ala Tyr Leu Cys Gly Val Lys Ala Asn Xaa Xaa Thr
65 70 75 80

Xaa Gly Xaa Ser Ala Ala
85

<210> 57
<211> 53
<212> PRT
<213> Artificial/Unknown

<220>
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<220>
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<222> (6)..(6)
<223> "Xaa" may be any amino acid

<220>
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<223> "Xaa" may be any amino acid

<220>
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<222> (22)..(22)
<223> "Xaa" may be any amino acid

<220>
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<222> (34)..(35)
<223> "Xaa" may be any amino acid

<220>
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<222> (41)..(42)
<223> "Xaa" may be any amino acid

<400> 57

Glu Asp Thr Leu Thr Xaa Val Thr Ala Asp His Ser His Val Phe Xaa
1 5 10 15

Phe Gly Gly Tyr Thr Xaa Arg Gly Asn Ser Ile Phe Gly Leu Ala Pro
20 25 30

Met Xaa Xaa Asp Thr Asp Lys Lys Xaa Xaa Thr Ala Ile Leu Tyr Gly
35 40 45

Asn Gly Pro Gly Tyr
50

<210> 58
<211> 22
<212> PRT
<213> Homo sapiens

<400> 58

Val Val Pro Ala Leu Leu Pro Leu Leu Ala Gly Thr Leu Leu Leu Leu
1 5 10 15

Glu Thr Ala Thr Ala Pro
20

<210> 59
<211> 154
<212> PRT
<213> Homo sapiens

<400> 59

Met Asn Phe Leu Leu Ser Trp Val His Trp Ser Leu Ala Leu Leu Leu
1 5 10 15

Tyr Leu His His Ala Lys Trp Ser Gln Ala Ala Pro Met Ala Glu Gly
20 25 30

Gly Gly Gln Asn His His Glu Val Val Lys Phe Met Asp Val Tyr Gln
35 40 45

Arg Ser Tyr Cys His Pro Ile Glu Thr Leu Val Asp Ile Phe Gln Glu
50 55 60

Tyr Pro Asp Glu Ile Glu Tyr Ile Phe Lys Pro Ser Cys Val Pro Leu
65 70 75 80

Met Arg Cys Gly Gly Cys Cys Asn Asp Glu Gly Leu Glu Cys Val Pro
85 90 95

Thr Glu Glu Ser Asn Ile Thr Met Gln Ile Met Arg Ile Lys Pro His
100 105 110

Gln Gly Gln His Ile Gly Glu Met Ser Phe Leu Gln His Asn Lys Cys

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        115                 120                 125

Glu Cys Arg Pro Lys Lys Asp Arg Ala Arg Gln Glu Lys Lys Ser Val
    130                 135                 140

Arg Gly Lys Gly Cys Asp Lys Pro Arg Arg
145                 150

<210>  60
<211>  162
<212>  PRT
<213>  Artificial/Unknown

<220>
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<222>  ()..()
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<400>  60

Met Asn Phe Leu Leu Ser Trp Val His Trp Ser Leu Ala Leu Leu Leu
1               5                   10                  15

Tyr Leu His His Ala Lys Trp Ser Gln Ala Ala Pro Met Ala Glu Gly
            20                  25                  30

Gly Gly Gln Asn His His Glu Val Val Lys Phe Met Asp Val Tyr Gln
        35                  40                  45

Arg Ser Tyr Cys His Pro Ile Glu Thr Leu Val Asp Ile Phe Gln Glu
    50                  55                  60

Tyr Pro Asp Glu Ile Glu Tyr Ile Phe Lys Pro Ser Cys Val Pro Leu
65                  70                  75                  80

Met Arg Cys Gly Gly Cys Cys Asn Asp Glu Gly Leu Glu Cys Val Pro
                85                  90                  95

Thr Glu Glu Ser Asn Ile Thr Met Gln Ile Met Arg Ile Lys Pro His
            100                 105                 110

Gln Gly Gln His Ile Gly Glu Met Ser Phe Leu Gln His Asn Lys Cys
        115                 120                 125

Glu Cys Arg Pro Lys Lys Asp Arg Ala Arg Gln Glu Lys Lys Ser Val
    130                 135                 140

Arg Gly Lys Gly Lys Gly Gln Lys Arg Lys Arg Lys Cys Asp Lys Pro
145                 150                 155                 160

Arg Arg

<210>  61
<211>  150
<212>  PRT
<213>  Artificial/Unknown

<220>
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<222> ()..()
<223> Synthetic

<400> 61

Met Asn Phe Leu Leu Ser Trp Val His Trp Ser Leu Ala Leu Leu Leu
1 5 10 15

Tyr Leu His His Ala Lys Trp Ser Gln Ala Ala Pro Met Ala Glu Gly
20 25 30

Gly Gly Gln Asn His His Glu Val Val Lys Phe Met Asp Val Tyr Gln
35 40 45

Arg Ser Tyr Cys His Pro Ile Glu Thr Leu Val Asp Ile Phe Gln Glu
50 55 60

Tyr Pro Asp Glu Ile Glu Tyr Ile Phe Lys Pro Ser Cys Val Pro Leu
65 70 75 80

Met Arg Cys Gly Gly Cys Cys Asn Asp Glu Gly Leu Glu Cys Val Pro
85 90 95

Thr Glu Glu Ser Asn Ile Thr Met Gln Ile Met Arg Ile Lys Pro His
100 105 110

Gln Gly Gln His Ile Gly Glu Met Ser Phe Leu Gln His Asn Lys Cys
115 120 125

Glu Cys Arg Pro Lys Lys Asp Arg Ala Arg Gln Glu Lys Lys Lys Lys
130 135 140

Cys Asp Lys Pro Arg Arg
145 150

<210> 62
<211> 154
<212> PRT
<213> Artificial/Unknown

<220>
<221> misc_feature
<222> ()..()
<223> Synthetic

<400> 62

Met Asn Phe Leu Leu Ser Trp Val His Trp Ser Leu Ala Leu Leu Leu
1 5 10 15

Tyr Leu His His Ala Lys Trp Ser Gln Ala Ala Pro Met Ala Glu Gly
20 25 30

Gly Gly Gln Asn His His Glu Val Val Lys Phe Met Asp Val Tyr Gln
35 40 45

Arg Ser Tyr Cys His Pro Ile Glu Thr Leu Val Asp Ile Phe Gln Glu
50 55 60

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Tyr Pro Asp Glu Ile Glu Tyr Ile Phe Lys Pro Ser Cys Val Pro Leu
65                  70                  75                  80

Met Arg Cys Gly Gly Cys Cys Asn Asp Glu Gly Leu Glu Cys Val Pro
                85                  90                  95

Thr Glu Glu Ser Asn Ile Thr Met Gln Ile Met Arg Ile Lys Pro His
            100                 105                 110

Gln Gly Gln His Ile Gly Glu Met Ser Phe Leu Gln His Asn Lys Cys
        115                 120                 125

Glu Cys Arg Pro Lys Lys Asp Arg Ala Arg Gln Glu Lys Lys Lys Lys
    130                 135                 140

Lys Lys Lys Lys Cys Asp Lys Pro Arg Arg
145                 150

<210>  63
<211>  7
<212>  PRT
<213>  Artificial/Unknown

<220>
<221>  misc_feature
<222>  ()..()
<223>  Synthetic

<400>  63

Gly Gly Gly Gly Ser Ser Ser
1               5

<210>  64
<211>  4
<212>  PRT
<213>  Artificial/Unknown

<220>
<221>  misc_feature
<222>  ()..()
<223>  Synthetic

<400>  64

Ile Glu Gly Arg
1

<210>  65
<211>  9
<212>  PRT
<213>  Artificial/Unknown

<220>
<221>  misc_feature
<222>  ()..()
<223>  Synthetic

<400>  65
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Pro Gly Ile Ser Gly Gly Gly Gly Gly
1 5

<210> 66
<211> 15
<212> PRT
<213> Artificial/Unknown

<220>
<221> misc_feature
<222> ()..()
<223> Synthetic

<400> 66

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
1 5 10 15

<210> 67
<211> 13
<212> PRT
<213> Artificial/Unknown

<220>
<221> misc_feature
<222> ()..()
<223> Synthetic

<400> 67

Glu Gly Lys Ser Ser Gly Ser Gly Ser Glu Lys Glu Phe
1 5 10

<210> 68
<211> 26
<212> PRT
<213> Homo sapiens

<400> 68

Met Asn Phe Leu Leu Ser Trp Val His Trp Ser Leu Ala Leu Leu Leu
1 5 10 15

Val Leu His His Ala Lys Trp Ser Gln Ala
20 25

<210> 69
<211> 33
<212> DNA
<213> Artificial/Unknown

<220>
<221> misc_feature
<222> ()..()
<223> Synthetic

<400> 69
cgcggatcca ccatgaactt tctgctgtct tgg 33

<210> 70
<211> 39
<212> DNA
<213> Artificial/Unknown

<220>
<221> misc_feature
<222> ()..()
<223> Synthetic

<400> 70
ctaaatggtt tctcttcctc cccgcctcgg cttgtcaca 39

<210> 71
<211> 39
<212> DNA
<213> Artificial/Unknown

<220>
<221> misc_feature
<222> ()..()
<223> Synthetic

<400> 71
tgtgacaagc ctgaggcggg aggaagagaa accatttag 39

<210> 72
<211> 28
<212> DNA
<213> Artificial/Unknown

<220>
<221> misc_feature
<222> ()..()
<223> Synthetic

<400> 72
cgcggatcct caaaaatcta aaggtcga 28

<210> 73
<211> 1107
<212> DNA
<213> Artificial/Unknown

<220>
<221> misc_feature
<222> ()..()
<223> Synthetic

<400> 73
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cctgatgaga tcgagtacat cttcaagcca atgaactttc tgctgtcttg ggtgcattgg 180

agccttgcct tgctgctcta cctccaccat gccaagtggt cccagtcctg tgtgcccctg 240

atgcgatgcg ggggctgctg caatgacgag ggcctggagt gtgtgcccac tgaggagtcc 300

aacatcacca tgcagattat gcggatcaaa cctcaccaag gccagcacat aggagagatg 360

agcttcctac agcacaacaa atgtgaatgc agaccaaaga aagatagagc aagacaagaa 420

aaatgtgaca agccgaggcg ggaggaagag aaaccattta gagactgtgc agatgtatat 480

caagctggtt ttaataaaag tggaatctac actatttata ttaataatat gccagaaccc 540

aaaaaggtgt tttgcaatat ggatgtcaat gggggaggtt ggactgtaat acaacatcgt 600

gaagatggaa gtctagattt ccaaagaggc tggaaggaat ataaaatggg ttttggaaat 660

ccctccggtg aatattggct ggggaatgag tttatttttg ccattaccag tcagaggcag 720

tacatgctaa gaattgagtt aatggactgg gaagggaacc gagcctattc acagtatgac 780

agattccaca taggaaatga aaagcaaaac tataggttgt atttaaaagg tcacactggg 840

acagcaggaa aacagagcag cctgatctta cacggtgctg atttcagcac taaagatgct 900

gataatgaca actgtatgtg caaatgtgcc ctcatgttaa caggaggatg gtggtttgat 960

gcttgtggcc cctccaatct aaatggaatg ttctatactg cgggacaaaa ccatggaaaa 1020

ctgaatggga taaagtggca ctacttcaaa gggcccagtt actccttacg ttccacaact 1080

atgatgattc gacctttaga tttttga 1107

<210> 74
<211> 368
<212> PRT
<213> Artificial/Unknown

<220>
<221> misc_feature
<222> ()..()
<223> Synthetic

<400> 74

Met Asn Phe Leu Leu Ser Trp Val His Trp Ser Leu Ala Leu Leu Leu
1 5 10 15

Tyr Leu His His Ala Lys Trp Ser Gln Ala Ala Pro Met Ala Glu Gly
20 25 30

Gly Gly Gln Asn His His Glu Val Val Lys Phe Met Asp Val Tyr Gln
35 40 45

Arg Ser Tyr Cys His Pro Ile Glu Thr Leu Val Asp Ile Phe Gln Glu
50 55 60

Tyr Pro Asp Glu Ile Glu Tyr Ile Phe Lys Pro Ser Cys Val Pro Leu
65 70 75 80

Met Arg Cys Gly Gly Cys Cys Asn Asp Glu Gly Leu Glu Cys Val Pro
85 90 95

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Thr Glu Glu Ser Asn Ile Thr Met Gln Ile Met Arg Ile Lys Pro His
            100                 105                 110

Gln Gly Gln His Ile Gly Glu Met Ser Phe Leu Gln His Asn Lys Cys
        115                 120                 125

Glu Cys Arg Pro Lys Lys Asp Arg Ala Arg Gln Glu Lys Cys Asp Lys
    130                 135                 140

Pro Arg Arg Glu Glu Glu Lys Pro Phe Arg Asp Cys Ala Asp Val Tyr
145                 150                 155                 160

Gln Ala Gly Phe Asn Lys Ser Gly Ile Tyr Thr Ile Tyr Ile Asn Asn
                165                 170                 175

Met Pro Glu Pro Lys Lys Val Phe Cys Asn Met Asp Val Asn Gly Gly
            180                 185                 190

Gly Trp Thr Val Ile Gln His Arg Glu Asp Gly Ser Leu Asp Phe Gln
        195                 200                 205

Arg Gly Trp Lys Glu Tyr Lys Met Gly Phe Gly Asn Pro Ser Gly Glu
    210                 215                 220

Tyr Trp Leu Gly Asn Glu Phe Ile Phe Ala Ile Thr Ser Gln Arg Gln
225                 230                 235                 240

Tyr Met Leu Arg Ile Glu Leu Met Asp Trp Glu Gly Asn Arg Ala Tyr
                245                 250                 255

Ser Gln Tyr Asp Arg Phe His Ile Gly Asn Glu Lys Gln Asn Tyr Arg
            260                 265                 270

Leu Tyr Leu Lys Gly His Thr Gly Thr Ala Gly Lys Gln Ser Ser Leu
        275                 280                 285

Ile Leu His Gly Ala Asp Phe Ser Thr Lys Asp Ala Asp Asn Asp Asn
    290                 295                 300

Cys Met Cys Lys Cys Ala Leu Met Leu Thr Gly Gly Trp Trp Phe Asp
305                 310                 315                 320

Ala Cys Gly Pro Ser Asn Leu Asn Gly Met Phe Tyr Thr Ala Gly Gln
                325                 330                 335

Asn His Gly Lys Leu Asn Gly Ile Lys Trp His Tyr Phe Lys Gly Pro
            340                 345                 350

Ser Tyr Ser Leu Arg Ser Thr Thr Met Met Ile Arg Pro Leu Asp Phe
        355                 360                 365
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<211> 39
<212> DNA
<213> Artificial/Unknown

<220>
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<400> 75
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<210> 76
<211> 39
<212> DNA
<213> Artificial/Unknown

<220>
<221> misc_feature
<222> ()..()
<223> Synthetic

<400> 76
tgtgacaagc cgaggcggca atttggcgcg gagtgcaaa 39

<210> 77
<211> 28
<212> DNA
<213> Artificial/Unknown

<220>
<221> misc_feature
<222> ()..()
<223> Synthetic

<400> 77
cgcggatcct taatccagca tcttctcc 28

<210> 78
<211> 669
<212> DNA
<213> Artificial/Unknown

<220>
<221> misc_feature
<222> ()..()
<223> Synthetic

<400> 78
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gccaagtggt cccaggctgc acccatggca gaaggaggag ggcagaatca tcacgaagtg 120

gtgaagttca tggatgtcta tcagcgcagc tactgccatc caatcgagac cctggtggac 180

atcttccagg agtaccctga tgagatcgag tacatcttca agccatcctg tgtgcccctg 240

atgcgatgcg ggggctgctg caatgacgag ggcctggagt gtgtgcccac tgaggagtcc 300

aacatcacca tgcagattat gcggatcaaa cctcaccaag gccagcacat aggagagatg 360

agcttcctac agcacaacaa atgtgaatgc agaccaaaga aagatagagc aagacaagaa 420

aaatgtgaca agccgaggcg gcaatttggc gcggagtgca aataccagtt ccaggcctgg 480

ggagaatgtg acctgaacac agccctgaag accagaactg gaagtctgaa gcgagccctg 540

cacaatgccg aatgccagaa gactgtcacc atctccaagc cctgtggcaa actgaccaag 600

cccaaacctc aagcagaatc taagaagaag aaaaaggaag gcaagaaaca ggagaagatg 660

ctggattaa 669

<210> 79
<211> 222
<212> PRT
<213> Artificial/Unknown

<220>
<221> misc_feature
<222> ()..()
<223> Synthetic

<400> 79

Met Asn Phe Leu Leu Ser Trp Val His Trp Ser Leu Ala Leu Leu Leu
1 5 10 15

Tyr Leu His His Ala Lys Trp Ser Gln Ala Ala Pro Met Ala Glu Gly
20 25 30

Gly Gly Gln Asn His His Glu Val Val Lys Phe Met Asp Val Tyr Gln
35 40 45

Arg Ser Tyr Cys His Pro Ile Glu Thr Leu Val Asp Ile Phe Gln Glu
50 55 60

Tyr Pro Asp Glu Ile Glu Tyr Ile Phe Lys Pro Ser Cys Val Pro Leu
65 70 75 80

Met Arg Cys Gly Gly Cys Cys Asn Asp Glu Gly Leu Glu Cys Val Pro
85 90 95

Thr Glu Glu Ser Asn Ile Thr Met Gln Ile Met Arg Ile Lys Pro His
100 105 110

Gln Gly Gln His Ile Gly Glu Met Ser Phe Leu Gln His Asn Lys Cys
115 120 125

Glu Cys Arg Pro Lys Lys Asp Arg Ala Arg Gln Glu Lys Cys Asp Lys
130 135 140

Pro Arg Arg Gln Phe Gly Ala Glu Cys Lys Tyr Gln Phe Gln Ala Trp
145 150 155 160

Gly Glu Cys Asp Leu Asn Thr Ala Leu Lys Thr Arg Thr Gly Ser Leu
165 170 175

Lys Arg Ala Leu His Asn Ala Glu Cys Gln Lys Thr Val Thr Ile Ser
180 185 190

Lys Pro Cys Gly Lys Leu Thr Lys Pro Lys Pro Gln Ala Glu Ser Lys
195 200 205

Lys Lys Lys Lys Glu Gly Lys Lys Gln Glu Lys Met Leu Asp
210 215 220

<210> 80
<211> 37
<212> DNA
<213> Artificial/Unknown

<220>
<221> misc_feature
<222> ()..()
<223> Synthetic

<400> 80
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<210> 81
<211> 37
<212> DNA
<213> Artificial/Unknown

<220>
<221> misc_feature
<222> ()..()
<223> Synthetic

<400> 81
tgtgacaagc cgaggcggga gtttggagcc gactgca 37

<210> 82
<211> 27
<212> DNA
<213> Artificial/Unknown

<220>
<221> misc_feature
<222> ()..()
<223> Synthetic

<400> 82
cgcggatccc tagtcctttc ccttccc 27

<210> 83
<211> 639
<212> DNA
<213> Artificial/Unknown

<220>
<221> misc_feature
<222> ()..()
<223> Synthetic

<400> 83
atgaactttc tgctgtcttg ggtgcattgg agccttgcct tgctgctcta cctccaccat 60

gccaagtggt cccaggctgc acccatggca gaaggaggag ggcagaatca tcacgaagtg 120

gtgaagttca tggatgtcta tcagcgcagc tactgccatc caatcgagac cctggtggac 180

atcttccagg agtaccctga tgagatcgag tacatcttca agccatcctg tgtgcccctg 240

atgcgatgcg ggggctgctg caatgacgag ggcctggagt gtgtgcccac tgaggagtcc 300

aacatcacca tgcagattat gcggatcaaa cctcaccaag gccagcacat aggagagatg 360

agcttcctac agcacaacaa atgtgaatgc agaccaaaga aagatagagc aagacaagaa 420

aaatgtgaca agccgaggcg ggagtttgga gccgactgca agtacaagtt tgagaactgg 480

ggtgcgtgtg atgggggcac aggcaccaaa gtccgccaag gcaccctgaa gaaggcgcgc 540

tacaatgctc agtgccagga gaccatccgc gtcaccaagc cctgcacccc caagaccaaa 600

gcaaaggcca aagccaagaa agggaaggga aaggactag 639

<210> 84
<211> 212
<212> PRT
<213> Artificial/Unknown

<220>
<221> misc_feature
<222> ()..()
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<400> 84

Met Asn Phe Leu Leu Ser Trp Val His Trp Ser Leu Ala Leu Leu Leu
1 5 10 15

Tyr Leu His His Ala Lys Trp Ser Gln Ala Ala Pro Met Ala Glu Gly
20 25 30

Gly Gly Gln Asn His His Glu Val Val Lys Phe Met Asp Val Tyr Gln
35 40 45

Arg Ser Tyr Cys His Pro Ile Glu Thr Leu Val Asp Ile Phe Gln Glu
50 55 60

Tyr Pro Asp Glu Ile Glu Tyr Ile Phe Lys Pro Ser Cys Val Pro Leu
65 70 75 80

Met Arg Cys Gly Gly Cys Cys Asn Asp Glu Gly Leu Glu Cys Val Pro
85 90 95

Thr Glu Glu Ser Asn Ile Thr Met Gln Ile Met Arg Ile Lys Pro His
100 105 110

Gln Gly Gln His Ile Gly Glu Met Ser Phe Leu Gln His Asn Lys Cys
115 120 125

Glu Cys Arg Pro Lys Lys Asp Arg Ala Arg Gln Glu Lys Cys Asp Lys
130 135 140

Pro Arg Arg Glu Phe Gly Ala Asp Cys Lys Tyr Lys Phe Glu Asn Trp
145 150 155 160

Gly Ala Cys Asp Gly Gly Thr Gly Thr Lys Val Arg Gln Gly Thr Leu

165 170 175

Lys Lys Ala Arg Tyr Asn Ala Gln Cys Gln Glu Thr Ile Arg Val Thr
180 185 190

Lys Pro Cys Thr Pro Lys Thr Lys Ala Lys Ala Lys Ala Lys Lys Gly
195 200 205

Lys Gly Lys Asp
210

<210> 85
<211> 36
<212> DNA
<213> Artificial/Unknown

<220>
<221> misc_feature
<222> ()..()
<223> Synthetic

<400> 85
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<210> 86
<211> 36
<212> DNA
<213> Artificial/Unknown

<220>
<221> misc_feature
<222> ()..()
<223> Synthetic

<400> 86
tgtgacaagc cgaggcggaa gccgtcgggc ccatgg 36

<210> 87
<211> 28
<212> DNA
<213> Artificial/Unknown

<220>
<221> misc_feature
<222> ()..()
<223> Synthetic

<400> 87
cgcggatcct tagtggaagg tgttgggg 28

<210> 88
<211> 1116
<212> DNA
<213> Artificial/Unknown

<220>
<221> misc_feature
<222> ()..()
<223> Synthetic

<400> 88
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gccaagtggt cccaggctgc acccatggca gaaggaggag ggcagaatca tcacgaagtg 120

gtgaagttca tggatgtcta tcagcgcagc tactgccatc caatcgagac cctggtggac 180

atcttccagg agtaccctga tgagatcgag tacatcttca agccatcctg tgtgcccctg 240

atgcgatgcg ggggctgctg caatgacgag ggcctggagt gtgtgcccac tgaggagtcc 300

aacatcacca tgcagattat gcggatcaaa cctcaccaag gccagcacat aggagagatg 360

agcttcctac agcacaacaa atgtgaatgc agaccaaaga aagatagagc aagacaagaa 420

aaatgtgaca agccgaggcg gaagccgtcg ggcccatgga gagactgcct gcaggccctg 480

gaggatggcc acgacaccag ctccatctac ctggtgaagc cggagaacac caaccgcctc 540

atgcaggtgt ggtgcgacca gagacacgac cccgggggct ggaccgtcat ccagagacgc 600

ctggatggct ctgttaactt cttcaggaac tgggagacgt acaagcaagg gtttgggaac 660

attgatggcg aatactggct gggcctggag aacatttact ggctgacgaa ccaaggcaac 720

tacaaactcc tggtgaccat ggaggactgg tccggccgca aagtctttgc agaatacgcc 780

agtttccgcc tggaacctga gagcgagtat tataagctgc ggctggggcg ctaccatggc 840

aatgcgggtg actcctttac atggcacaac ggcaagcagt tcaccaccct ggacagagat 900

catgatgtct acacaggaaa ctgtgcccac taccagaagg gaggctggtg gtataacgcc 960

tgtgcccact ccaacctcaa cggggtctgg taccgcgggg gccattaccg gagccgctac 1020

caggacggag tctactgggc tgagttccga ggaggctctt actcactcaa gaaagtggtg 1080

atgatgatcc gaccgaaccc caacaccttc cactaa 1116

<210> 89
<211> 371
<212> PRT
<213> Artificial/Unknown

<220>
<221> misc_feature
<222> ()..()
<223> Synthetic

<400> 89

Met Asn Phe Leu Leu Ser Trp Val His Trp Ser Leu Ala Leu Leu Leu
1 5 10 15

Tyr Leu His His Ala Lys Trp Ser Gln Ala Ala Pro Met Ala Glu Gly
20 25 30

Gly Gly Gln Asn His His Glu Val Val Lys Phe Met Asp Val Tyr Gln

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        35                  40                  45

Arg Ser Tyr Cys His Pro Ile Glu Thr Leu Val Asp Ile Phe Gln Glu
    50                  55                  60

Tyr Pro Asp Glu Ile Glu Tyr Ile Phe Lys Pro Ser Cys Val Pro Leu
65                  70                  75                  80

Met Arg Cys Gly Gly Cys Cys Asn Asp Glu Gly Leu Glu Cys Val Pro
                85                  90                  95

Thr Glu Glu Ser Asn Ile Thr Met Gln Ile Met Arg Ile Lys Pro His
            100                 105                 110

Gln Gly Gln His Ile Gly Glu Met Ser Phe Leu Gln His Asn Lys Cys
        115                 120                 125

Glu Cys Arg Pro Lys Lys Asp Arg Ala Arg Gln Glu Lys Cys Asp Lys
    130                 135                 140

Pro Arg Arg Lys Pro Ser Gly Pro Trp Arg Asp Cys Leu Gln Ala Leu
145                 150                 155                 160

Glu Asp Gly His Asp Thr Ser Ser Ile Tyr Leu Val Lys Pro Glu Asn
                165                 170                 175

Thr Asn Arg Leu Met Gln Val Trp Cys Asp Gln Arg His Asp Pro Gly
            180                 185                 190

Gly Trp Thr Val Ile Gln Arg Arg Leu Asp Gly Ser Val Asn Phe Phe
        195                 200                 205

Arg Asn Trp Glu Thr Tyr Lys Gln Gly Phe Gly Asn Ile Asp Gly Glu
    210                 215                 220

Tyr Trp Leu Gly Leu Glu Asn Ile Tyr Trp Leu Thr Asn Gln Gly Asn
225                 230                 235                 240

Tyr Lys Leu Leu Val Thr Met Glu Asp Trp Ser Gly Arg Lys Val Phe
                245                 250                 255

Ala Glu Tyr Ala Ser Phe Arg Leu Glu Pro Glu Ser Glu Tyr Tyr Lys
            260                 265                 270

Leu Arg Leu Gly Arg Tyr His Gly Asn Ala Gly Asp Ser Phe Thr Trp
        275                 280                 285

His Asn Gly Lys Gln Phe Thr Thr Leu Asp Arg Asp His Asp Val Tyr
    290                 295                 300

Thr Gly Asn Cys Ala His Tyr Gln Lys Gly Gly Trp Trp Tyr Asn Ala
305                 310                 315                 320

Cys Ala His Ser Asn Leu Asn Gly Val Trp Tyr Arg Gly Gly His Tyr
                325                 330                 335

Arg Ser Arg Tyr Gln Asp Gly Val Tyr Trp Ala Glu Phe Arg Gly Gly
            340                 345                 350
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Ser Tyr Ser Leu Lys Lys Val Val Met Met Ile Arg Pro Asn Pro Asn
355 360 365

Thr Phe His
370

<210> 90
<211> 36
<212> DNA
<213> Artificial/Unknown

<220>
<221> misc_feature
<222> ()..()
<223> Synthetic

<400> 90
gaatggtcct tcattgatcc gcctcggctt gtcaca 36

<210> 91
<211> 36
<212> DNA
<213> Artificial/Unknown

<220>
<221> misc_feature
<222> ()..()
<223> Synthetic

<400> 91
tgtgacaagc cgaggcggat caatgaagga ccattc 36

<210> 92
<211> 29
<212> DNA
<213> Artificial/Unknown

<220>
<221> misc_feature
<222> ()..()
<223> Synthetic

<400> 92
cgcggatcct cagtcaatag gcttgatca 29

<210> 93
<211> 1104
<212> DNA
<213> Artificial/Unknown

<220>
<221> misc_feature
<222> ()..()
<223> Synthetic

<400> 93
atgaactttc tgctgtcttg ggtgcattgg agccttgcct tgctgctcta cctccaccat 60

gccaagtggt cccaggctgc acccatggca gaaggaggag ggcagaatca tcacgaagtg 120

gtgaagttca tggatgtcta tcagcgcagc tactgccatc caatcgagac cctggtggac 180

atcttccagg agtaccctga tgagatcgag tacatcttca agccatcctg tgtgcccctg 240

atgcgatgcg ggggctgctg caatgacgag ggcctggagt gtgtgcccac tgaggagtcc 300

aacatcacca tgcagattat gcggatcaaa cctcaccaag gccagcacat aggagagatg 360

agcttcctac agcacaacaa atgtgaatgc agaccaaaga aagatagagc aagacaagaa 420

aaatgtgaca agccgaggcg gatcaatgaa ggaccattca aagactgtca gcaagcaaaa 480

gaagctgggc attcggtcag tgggatttat atgattaaac ctgaaaacag caatggacca 540

atgcagttat ggtgtgaaaa cagtttggac cctgggggtt ggactgttat tcagaaaaga 600

acagacggct ctgtcaactt cttcagaaat tgggaaaatt ataagaaagg gtttggaaac 660

attgacggag aatactggct tggactggaa aatatctata tgcttagcaa tcaagataat 720

tacaagttat tgattgaatt agaagactgg agtgataaaa aagtctatgc agaatacagc 780

agctttcgtc tggaacctga aagtgaattc tatagactgc gcctgggaac ttaccaggga 840

aatgcagggg attctatgat gtggcataat ggtaaacaat tcaccacact ggacagagat 900

aaagatatgt atgcaggaaa ctgcgcccac tttcataaag gaggctggtg gtacaatgcc 960

tgtgcacatt ctaacctaaa tggagtatgg tacagaggag gccattacag aagcaagcac 1020

caagatggaa ttttctgggc cgaatacaga ggcgggtcat actccttaag agcagttcag 1080

atgatgatca agcctattga ctga 1104

<210> 94
<211> 367
<212> PRT
<213> Artificial/Unknown

<220>
<221> misc_feature
<222> ()..()
<223> Synthetic

<400> 94

Met Asn Phe Leu Leu Ser Trp Val His Trp Ser Leu Ala Leu Leu Leu
1 5 10 15

Tyr Leu His His Ala Lys Trp Ser Gln Ala Ala Pro Met Ala Glu Gly
20 25 30

Gly Gly Gln Asn His His Glu Val Val Lys Phe Met Asp Val Tyr Gln
35 40 45

Arg Ser Tyr Cys His Pro Ile Glu Thr Leu Val Asp Ile Phe Gln Glu
50 55 60

```
Tyr Pro Asp Glu Ile Glu Tyr Ile Phe Lys Pro Ser Cys Val Pro Leu
65                  70                  75                  80

Met Arg Cys Gly Gly Cys Cys Asn Asp Glu Gly Leu Glu Cys Val Pro
                85                  90                  95

Thr Glu Glu Ser Asn Ile Thr Met Gln Ile Met Arg Ile Lys Pro His
            100                 105                 110

Gln Gly Gln His Ile Gly Glu Met Ser Phe Leu Gln His Asn Lys Cys
        115                 120                 125

Glu Cys Arg Pro Lys Lys Asp Arg Ala Arg Gln Glu Lys Cys Asp Lys
    130                 135                 140

Pro Arg Arg Ile Asn Glu Gly Pro Phe Lys Asp Cys Gln Gln Ala Lys
145                 150                 155                 160

Glu Ala Gly His Ser Val Ser Gly Ile Tyr Met Ile Lys Pro Glu Asn
                165                 170                 175

Ser Asn Gly Pro Met Gln Leu Trp Cys Glu Asn Ser Leu Asp Pro Gly
            180                 185                 190

Gly Trp Thr Val Ile Gln Lys Arg Thr Asp Gly Ser Val Asn Phe Phe
        195                 200                 205

Arg Asn Trp Glu Asn Tyr Lys Lys Gly Phe Gly Asn Ile Asp Gly Glu
    210                 215                 220

Tyr Trp Leu Gly Leu Glu Asn Ile Tyr Met Leu Ser Asn Gln Asp Asn
225                 230                 235                 240

Tyr Lys Leu Leu Ile Glu Leu Glu Asp Trp Ser Asp Lys Lys Val Tyr
                245                 250                 255

Ala Glu Tyr Ser Ser Phe Arg Leu Glu Pro Glu Ser Glu Phe Tyr Arg
            260                 265                 270

Leu Arg Leu Gly Thr Tyr Gln Gly Asn Ala Gly Asp Ser Met Met Trp
        275                 280                 285

His Asn Gly Lys Gln Phe Thr Thr Leu Asp Arg Asp Lys Asp Met Tyr
    290                 295                 300

Ala Gly Asn Cys Ala His Phe His Lys Gly Gly Trp Trp Tyr Asn Ala
305                 310                 315                 320

Cys Ala His Ser Asn Leu Asn Gly Val Trp Tyr Arg Gly Gly His Tyr
                325                 330                 335

Arg Ser Lys His Gln Asp Gly Ile Phe Trp Ala Glu Tyr Arg Gly Gly
            340                 345                 350

Ser Tyr Ser Leu Arg Ala Val Gln Met Met Ile Lys Pro Ile Asp
        355                 360                 365
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<210> 95
<211> 1387

<212> DNA
<213> Artificial/Unknown

<220>
<221> misc_feature
<222> ()..()
<223> Synthetic

<220>
<221> misc_feature
<222> (1201)..(1219)
<223> "n" may be any nucleotide

<220>
<221> misc_feature
<222> (1295)..(1324)
<223> "n" may be any nucleotide

<400> 95
atgtggcaga ttgttttctt tactctgagc tgtgatcttg tcttggccgc agcctataac 60

aactttcgga agagcatgga cagcatagga aagaagcaat atcaggtcca gcatgggtcc 120

tgcagctaca ctttcctcct gccagagatg gacaactgcc gctcttcctc cagcccctac 180

gtgtccaatg ctgtgcagag ggacgcgccg ctcgaatacg atgactcggt gcagaggctg 240

caagtgctgg agaacatcat ggaaaacaac actcagtggc taatgaaggt agagaatata 300

tcccaggaca acatgaagaa agaaatggta gagatacagc agaatgcagt acagaaccag 360

acggctgtga tgatagaaat agggacaaac ctgttgaacc aaacagcgga gcaaacgcgg 420

aagttaactg atgtggaagc ccaagtatta aatcagacca cgagacttga acttcagctc 480

ttggaacact ccctctcgac aaacaaattg gaaaaacaga ttttggacca gaccagtgaa 540

ataaacaaat tgcaagataa gaacagtttc ctagaaaaga aggtgctagc tatggaagac 600

aagcacatca tccaactaca gtcaataaaa gaagagaaag atcagctaca ggtgttagta 660

tccaagcaga attccatcat tgaagaactc gaaaaaaaaa tagtgactgc cacggtgaat 720

aattcagttc ttcagaagca gcaacatgat ctcatggaga cagttaataa cttactgact 780

atgatgtcca catcaaacgc agctaaggac cccactgttg ctaaagaaga acaaatcagc 840

ttcagagact gtgctgaagt attcaaatca ggacacacca cgaatggcat ctacacgtta 900

acattcccta attctacaga agagatcaag gcctactgtg acatggaagc tggaggaggc 960

gggtggacaa ttattcagcg acgtgaggat ggcagcgttg catttcagag gacttggaaa 1020

gaatataaag tgggatttgg taacctctca gaaaaatatt ggctgggaaa tgagtttgtt 1080

tcgcaactga ctaatcagca acgctatgtg cttaaaatac accttaaaga ctgggaaggg 1140

aatgaggctt actcattgta tgaacatttc tatctctcaa gtgaagaact caattatagg 1200

nnnnnnnnnn nnnnnnnnng gcaatgattt tagcacaagg gatggagcca ccgncanatg 1260

tatttgcaaa tgttcacaaa tgctaacagn aggtnnnnnn nnnnnnnnnn nnnnnnnnnn 1320

nnnntactgg aaaggctcag gctattcgct caaggccaca accatgatga tccgaccagc 1380

agatttc 1387

<210> 96
<211> 360
<212> PRT
<213> Artificial/Unknown

<220>
<221> misc_feature
<222> ()..()
<223> Synthetic

<220>
<221> misc_feature
<222> (269)..(272)
<223> "Xaa" may be any amino acid

<400> 96

Met Trp Gln Ile Val Phe Phe Thr Leu Ser Cys Asp Leu Val Leu Ala
1 5 10 15

Ala Ala Tyr Asn Asn Phe Arg Lys Ser Met Asp Ser Ile Gly Lys Lys
20 25 30

Gln Tyr Gln Val Gln His Gly Ser Cys Ser Tyr Thr Phe Leu Leu Pro
35 40 45

Glu Met Asp Asn Cys Arg Ser Ser Ser Ser Pro Tyr Val Ser Asn Ala
50 55 60

Val Gln Arg Asp Ala Pro Leu Glu Tyr Asp Asp Ser Val Gln Arg Leu
65 70 75 80

Gln Val Leu Glu Asn Ile Met Glu Asn Asn Thr Gln Trp Leu Met Lys
85 90 95

Leu Glu Asn Ile Ser Gln Asp Asn Met Lys Lys Glu Met Val Glu Ile
100 105 110

Gln Gln Asn Ala Val Gln Asn Gln Thr Ala Val Met Ile Glu Ile Gly
115 120 125

Thr Asn Leu Leu Asn Gln Thr Ala Glu Gln Thr Arg Lys Leu Thr Asp
130 135 140

Val Glu Ala Gln Val Ser Asn Ala Thr Thr Arg Leu Glu Leu Gln Leu
145 150 155 160

Leu Glu His Ser Leu Ser Thr Asn Lys Leu Glu Lys Gln Ile Leu Asp
165 170 175

Gln Thr Ser Glu Ile Asn Lys Leu Gln Asp Lys Asn Ser Phe Leu Glu

```
            180                 185                 190

Lys Lys Val Leu Ala Met Glu Asp Lys His Ile Ile Gln Leu Gln Ser
        195                 200                 205

Ile Lys Glu Glu Lys Asp Gln Leu Gln Val Leu Val Ser Lys Gln Asn
    210                 215                 220

Ser Ile Ile Glu Glu Leu Glu Lys Lys Ile Val Thr Ala Thr Val Asn
225                 230                 235                 240

Asn Ser Val Leu Gln Lys Gln Gln His Asp Leu Met Glu Thr Val Asn
                245                 250                 255

Asn Leu Leu Thr Met Met Ser Thr Ser Asn Cys Lys Xaa Xaa Xaa Xaa
            260                 265                 270

Val Ala Lys Glu Glu Gln Ile Ser Phe Arg Asp Cys Ala Glu Val Phe
        275                 280                 285

Lys Ser Gly His Thr Thr Asn Gly Ile Tyr Thr Leu Met Trp Gln Ile
    290                 295                 300

Val Phe Phe Thr Leu Ser Cys Asp Leu Val Leu Ala Ala Ala Tyr Asn
305                 310                 315                 320

Asn Phe Arg Lys Ser Met Asp Ser Ile Gly Lys Lys Gln Tyr Gln Val
                325                 330                 335

Gln His Gly Ser Cys Ser Tyr Thr Phe Leu Leu Pro Glu Met Asp Asn
            340                 345                 350

Cys Arg Ser Ser Ser Ser Pro Tyr
        355                 360

<210>  97
<211>  339
<212>  PRT
<213>  Artificial/Unknown

<220>
<221>  misc_feature
<222>  ()..()
<223>  Synthetic

<400>  97

Met Asn Phe Leu Leu Ser Trp Val His Trp Ser Leu Ala Leu Leu Leu
1               5                   10                  15

Tyr Leu His His Ala Lys Trp Ser Gln Ala Ala Pro Met Ala Glu Gly
            20                  25                  30

Gly Gly Gln Asn His His Glu Val Val Lys Phe Met Asp Val Tyr Gln
        35                  40                  45

Arg Ser Tyr Cys His Pro Ile Glu Thr Leu Val Asp Ile Phe Gln Glu
    50                  55                  60
```

```
Tyr Pro Asp Glu Ile Glu Tyr Ile Phe Lys Pro Ser Cys Val Pro Leu
65                  70                  75                  80

Met Arg Cys Gly Gly Cys Cys Asn Asp Glu Gly Leu Glu Cys Val Pro
                85                  90                  95

Thr Glu Glu Ser Asn Ile Thr Met Gln Ile Met Arg Ile Lys Pro His
            100                 105                 110

Gln Gly Gln His Ile Gly Glu Met Ser Phe Leu Gln His Asn Lys Cys
        115                 120                 125

Glu Cys Arg Pro Lys Lys Asp Arg Ala Arg Gln Glu Lys Cys Asp Lys
    130                 135                 140

Pro Arg Arg Met Pro Glu Pro Lys Lys Val Phe Cys Asn Met Asp Val
145                 150                 155                 160

Asn Gly Gly Gly Trp Thr Val Ile Gln His Arg Glu Asp Gly Ser Leu
                165                 170                 175

Asp Phe Gln Arg Gly Trp Lys Glu Tyr Lys Met Gly Phe Gly Asn Pro
            180                 185                 190

Ser Gly Glu Tyr Trp Leu Gly Asn Glu Phe Ile Phe Ala Ile Thr Ser
        195                 200                 205

Gln Arg Gln Tyr Met Leu Arg Ile Glu Leu Met Asp Trp Glu Gly Asn
    210                 215                 220

Arg Ala Tyr Ser Gln Tyr Asp Arg Phe His Ile Gly Asn Glu Lys Gln
225                 230                 235                 240

Asn Tyr Arg Leu Tyr Leu Lys Gly His Thr Gly Thr Ala Gly Lys Gln
                245                 250                 255

Ser Ser Leu Ile Leu His Gly Ala Asp Phe Ser Thr Lys Asp Ala Asp
            260                 265                 270

Asn Asp Asn Cys Met Cys Lys Cys Ala Leu Met Leu Thr Gly Gly Trp
        275                 280                 285

Trp Phe Asp Ala Cys Gly Pro Ser Asn Leu Asn Gly Met Phe Tyr Thr
    290                 295                 300

Ala Gly Gln Asn His Gly Lys Leu Asn Gly Ile Lys Trp His Tyr Phe
305                 310                 315                 320

Lys Gly Pro Ser Tyr Ser Leu Arg Ser Thr Thr Met Met Ile Arg Pro
                325                 330                 335

Leu Asp Phe
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<210> 98
<211> 361
<212> DNA
<213> Artificial/Unknown

<220>

<221> misc_feature
<222> ()..()
<223> Synthetic

<400> 98
gtccaatgct gtgcagaggg acgcgccgct cgaatacgat gactcggtgc agaggctgca 60

agtgctggag aacatcatgg aaaacaacac tcagtggcta atgaaggtag agaatatatc 120

ccaggacaac atgaagaaag aaatggtaga gatacagcag aatgcagtac agaaccagac 180

ggctgtgatg atagaaatag ggacaaacct gttgaaccaa acagcggagc aaacgcggaa 240

gttaactgat gtggaagccc aagtattaaa tcagaccacg agacttgaac ttcagctctt 300

ggaacactcc ctctcgacaa acaaattgga aaaacagatt ttggaccaga ccagtgaaat 360

a 361

<210> 99
<211> 123
<212> PRT
<213> Artificial/Unknown

<220>
<221> misc_feature
<222> ()..()
<223> Synthetic

<400> 99

Val Ser Asn Ala Val Gln Arg Asp Ala Pro Leu Glu Tyr Asp Asp Ser
1 5 10 15

Val Gln Arg Leu Gln Val Leu Glu Asn Ile Met Glu Asn Asn Thr Gln
20 25 30

Trp Leu Met Lys Leu Glu Asn Ile Ser Gln Asp Asn Met Lys Lys Glu
35 40 45

Met Val Glu Ile Gln Gln Asn Ala Val Gln Asn Gln Thr Ala Val Met
50 55 60

Ile Glu Ile Gly Thr Asn Leu Leu Asn Gln Thr Ala Glu Gln Thr Arg
65 70 75 80

Lys Leu Thr Asp Val Glu Ala Gln Val Ser Asn Ala Thr Thr Arg Leu
85 90 95

Glu Leu Gln Leu Leu Glu His Ser Leu Ser Thr Asn Lys Leu Glu Lys
100 105 110

Gln Ile Leu Asp Gln Thr Ser Glu Ile Asn Lys
115 120

<210> 100
<211> 462
<212> PRT
<213> Artificial/Unknown

<220>
<221> misc_feature
<222> ()..()
<223> Synthetic

<400> 100

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Val Ser Asn Ala Val Gln Arg Asp Ala Pro Leu Glu Tyr Asp Asp Ser
1               5                  10                  15

Val Gln Arg Leu Gln Val Leu Glu Asn Ile Met Glu Asn Asn Thr Gln
            20                  25                  30

Trp Leu Met Lys Leu Glu Asn Ile Ser Gln Asp Asn Met Lys Lys Glu
        35                  40                  45

Met Val Glu Ile Gln Gln Asn Ala Val Gln Asn Gln Thr Ala Val Met
    50                  55                  60

Ile Glu Ile Gly Thr Asn Leu Leu Asn Gln Thr Ala Glu Gln Thr Arg
65                  70                  75                  80

Lys Leu Thr Asp Val Glu Ala Gln Val Ser Asn Ala Thr Thr Arg Leu
                85                  90                  95

Glu Leu Gln Leu Leu Glu His Ser Leu Ser Thr Asn Lys Leu Glu Lys
            100                 105                 110

Gln Ile Leu Asp Gln Thr Ser Glu Ile Asn Lys Met Asn Phe Leu Leu
        115                 120                 125

Ser Trp Val His Trp Ser Leu Ala Leu Leu Leu Tyr Leu His His Ala
    130                 135                 140

Lys Trp Ser Gln Ala Ala Pro Met Ala Glu Gly Gly Gly Gln Asn His
145                 150                 155                 160

His Glu Val Val Lys Phe Met Asp Val Tyr Gln Arg Ser Tyr Cys His
                165                 170                 175

Pro Ile Glu Thr Leu Val Asp Ile Phe Gln Glu Tyr Pro Asp Glu Ile
            180                 185                 190

Glu Tyr Ile Phe Lys Pro Ser Cys Val Pro Leu Met Arg Cys Gly Gly
        195                 200                 205

Cys Cys Asn Asp Glu Gly Leu Glu Cys Val Pro Thr Glu Glu Ser Asn
    210                 215                 220

Ile Thr Met Gln Ile Met Arg Ile Lys Pro His Gln Gly Gln His Ile
225                 230                 235                 240

Gly Glu Met Ser Phe Leu Gln His Asn Lys Cys Glu Cys Arg Pro Lys
                245                 250                 255

Lys Asp Arg Ala Arg Gln Glu Lys Cys Asp Lys Pro Arg Arg Met Pro
            260                 265                 270
```

```
Glu Pro Lys Lys Val Phe Cys Asn Met Asp Val Asn Gly Gly Gly Trp
        275                 280                 285

Thr Val Ile Gln His Arg Glu Asp Gly Ser Leu Asp Phe Gln Arg Gly
    290                 295                 300

Trp Lys Glu Tyr Lys Met Gly Phe Gly Asn Pro Ser Gly Glu Tyr Trp
305                 310                 315                 320

Leu Gly Asn Glu Phe Ile Phe Ala Ile Thr Ser Gln Arg Gln Tyr Met
                325                 330                 335

Leu Arg Ile Glu Leu Met Asp Trp Glu Gly Asn Arg Ala Tyr Ser Gln
            340                 345                 350

Tyr Asp Arg Phe His Ile Gly Asn Glu Lys Gln Asn Tyr Arg Leu Tyr
        355                 360                 365

Leu Lys Gly His Thr Gly Thr Ala Gly Lys Gln Ser Ser Leu Ile Leu
    370                 375                 380

His Gly Ala Asp Phe Ser Thr Lys Asp Ala Asp Asn Asp Asn Cys Met
385                 390                 395                 400

Cys Lys Cys Ala Leu Met Leu Thr Gly Gly Trp Trp Phe Asp Ala Cys
                405                 410                 415

Gly Pro Ser Asn Leu Asn Gly Met Phe Tyr Thr Ala Gly Gln Asn His
            420                 425                 430

Gly Lys Leu Asn Gly Ile Lys Trp His Tyr Phe Lys Gly Pro Ser Tyr
        435                 440                 445

Ser Leu Arg Ser Thr Thr Met Met Ile Arg Pro Leu Asp Phe
    450                 455                 460

<210>  101
<211>  224
<212>  PRT
<213>  Homo sapiens

<400>  101

Lys Pro Ser Gly Pro Trp Arg Asp Cys Leu Gln Ala Leu Glu Asp Gly
1               5                   10                  15

His Asp Thr Ser Ser Ile Tyr Leu Val Lys Pro Glu Asn Thr Asn Arg
            20                  25                  30

Leu Met Gln Val Trp Cys Asp Gln Arg His Asp Pro Gly Gly Trp Thr
        35                  40                  45

Val Ile Gln Arg Arg Leu Asp Gly Ser Val Asn Phe Phe Arg Asn Trp
    50                  55                  60

Glu Thr Tyr Lys Gln Gly Phe Gly Asn Ile Asp Gly Glu Tyr Trp Leu
65                  70                  75                  80

Gly Leu Glu Asn Ile Tyr Trp Leu Thr Asn Gln Gly Asn Tyr Lys Leu
```

85 90 95

Leu Val Thr Met Glu Asp Trp Ser Gly Arg Lys Val Phe Ala Glu Tyr
100 105 110

Ala Ser Phe Arg Leu Glu Pro Glu Ser Glu Tyr Tyr Lys Leu Arg Leu
115 120 125

Gly Arg Tyr His Gly Asn Ala Gly Asp Ser Phe Thr Trp His Asn Gly
130 135 140

Lys Gln Phe Thr Thr Leu Asp Arg Asp His Asp Val Tyr Thr Gly Asn
145 150 155 160

Cys Ala His Tyr Gln Lys Gly Gly Trp Trp Tyr Asn Ala Cys Ala His
165 170 175

Ser Asn Leu Asn Gly Val Trp Tyr Arg Gly Gly His Tyr Arg Ser Arg
180 185 190

Tyr Gln Asp Gly Val Tyr Trp Ala Glu Phe Arg Gly Gly Ser Tyr Ser
195 200 205

Leu Lys Lys Val Val Met Met Ile Arg Pro Asn Pro Asn Thr Phe His
210 215 220

<210> 102
<211> 220
<212> PRT
<213> Homo sapiens

<400> 102

Ile Asn Glu Gly Pro Phe Lys Asp Cys Gln Gln Ala Lys Glu Ala Gly
1 5 10 15

His Ser Val Ser Gly Ile Tyr Met Ile Lys Pro Glu Asn Ser Asn Gly
20 25 30

Pro Met Gln Leu Trp Cys Glu Asn Ser Leu Asp Pro Gly Gly Trp Thr
35 40 45

Val Ile Gln Lys Arg Thr Asp Gly Ser Val Asn Phe Phe Arg Asn Trp
50 55 60

Glu Asn Tyr Lys Lys Gly Phe Gly Asn Ile Asp Gly Glu Tyr Trp Leu
65 70 75 80

Gly Leu Glu Asn Ile Tyr Met Leu Ser Asn Gln Asp Asn Tyr Lys Leu
85 90 95

Leu Ile Glu Leu Glu Asp Trp Ser Asp Lys Lys Val Tyr Ala Glu Tyr
100 105 110

Ser Ser Phe Arg Leu Glu Pro Glu Ser Glu Phe Tyr Arg Leu Arg Leu
115 120 125

Gly Thr Tyr Gln Gly Asn Ala Gly Asp Ser Met Met Trp His Asn Gly
130 135 140

```
Lys Gln Phe Thr Thr Leu Asp Arg Asp Lys Asp Met Tyr Ala Gly Asn
145                 150                 155                 160

Cys Ala His Phe His Lys Gly Gly Trp Trp Tyr Asn Ala Cys Ala His
                165                 170                 175

Ser Asn Leu Asn Gly Val Trp Tyr Arg Gly Gly His Tyr Arg Ser Lys
            180                 185                 190

His Gln Asp Gly Ile Phe Trp Ala Glu Tyr Arg Gly Gly Ser Tyr Ser
        195                 200                 205

Leu Arg Ala Val Gln Met Met Ile Lys Pro Ile Asp
    210                 215                 220
```

<210> 103
<211> 371
<212> PRT
<213> Artificial/Unknown

<220>
<221> misc_feature
<222> ()..()
<223> Synthetic

<400> 103

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Met Asn Phe Leu Leu Ser Trp Val His Trp Ser Leu Ala Leu Leu Leu
1               5                   10                  15

Tyr Leu His His Ala Lys Trp Ser Gln Ala Ala Pro Met Ala Glu Gly
            20                  25                  30

Gly Gly Gln Asn His His Glu Val Val Lys Phe Met Asp Val Tyr Gln
        35                  40                  45

Arg Ser Tyr Cys His Pro Ile Glu Thr Leu Val Asp Ile Phe Gln Glu
    50                  55                  60

Tyr Pro Asp Glu Ile Glu Tyr Ile Phe Lys Pro Ser Cys Val Pro Leu
65                  70                  75                  80

Met Arg Cys Gly Gly Cys Cys Asn Asp Glu Gly Leu Glu Cys Val Pro
                85                  90                  95

Thr Glu Glu Ser Asn Ile Thr Met Gln Ile Met Arg Ile Lys Pro His
            100                 105                 110

Gln Gly Gln His Ile Gly Glu Met Ser Phe Leu Gln His Asn Lys Cys
        115                 120                 125

Glu Cys Arg Pro Lys Lys Asp Arg Ala Arg Gln Glu Lys Cys Asp Lys
    130                 135                 140

Pro Arg Arg Lys Pro Ser Gly Pro Trp Arg Asp Cys Leu Gln Ala Leu
145                 150                 155                 160

Glu Asp Gly His Asp Thr Ser Ser Ile Tyr Leu Val Lys Pro Glu Asn
```

```
                165                 170                 175

Thr Asn Arg Leu Met Gln Val Trp Cys Asp Gln Arg His Asp Pro Gly
            180                 185                 190

Gly Trp Thr Val Ile Gln Arg Arg Leu Asp Gly Ser Val Asn Phe Phe
        195                 200                 205

Arg Asn Trp Glu Thr Tyr Lys Gln Gly Phe Gly Asn Ile Asp Gly Glu
    210                 215                 220

Tyr Trp Leu Gly Leu Glu Asn Ile Tyr Trp Leu Thr Asn Gln Gly Asn
225                 230                 235                 240

Tyr Lys Leu Leu Val Thr Met Glu Asp Trp Ser Gly Arg Lys Val Phe
                245                 250                 255

Ala Glu Tyr Ala Ser Phe Arg Leu Glu Pro Glu Ser Glu Tyr Tyr Lys
            260                 265                 270

Leu Arg Leu Gly Arg Tyr His Gly Asn Ala Gly Asp Ser Phe Thr Trp
        275                 280                 285

His Asn Gly Lys Gln Phe Thr Thr Leu Asp Arg Asp His Asp Val Tyr
    290                 295                 300

Thr Gly Asn Cys Ala His Tyr Gln Lys Gly Gly Trp Trp Tyr Asn Ala
305                 310                 315                 320

Cys Ala His Ser Asn Leu Asn Gly Val Trp Tyr Arg Gly Gly His Tyr
                325                 330                 335

Arg Ser Arg Tyr Gln Asp Gly Val Tyr Trp Ala Glu Phe Arg Gly Gly
            340                 345                 350

Ser Tyr Ser Leu Lys Lys Val Val Met Met Ile Arg Pro Asn Pro Asn
        355                 360                 365

Thr Phe His
    370

<210>  104
<211>  367
<212>  PRT
<213>  Artificial/Unknown

<220>
<221>  misc_feature
<222>  ()..()
<223>  Synthetic

<400>  104

Met Asn Phe Leu Leu Ser Trp Val His Trp Ser Leu Ala Leu Leu Leu
1               5                   10                  15

Tyr Leu His His Ala Lys Trp Ser Gln Ala Ala Pro Met Ala Glu Gly
            20                  25                  30
```

```
Gly Gly Gln Asn His His Glu Val Val Lys Phe Met Asp Val Tyr Gln
        35                  40                  45

Arg Ser Tyr Cys His Pro Ile Glu Thr Leu Val Asp Ile Phe Gln Glu
    50                  55                  60

Tyr Pro Asp Glu Ile Glu Tyr Ile Phe Lys Pro Ser Cys Val Pro Leu
65                  70                  75                  80

Met Arg Cys Gly Gly Cys Cys Asn Asp Glu Gly Leu Glu Cys Val Pro
                85                  90                  95

Thr Glu Glu Ser Asn Ile Thr Met Gln Ile Met Arg Ile Lys Pro His
            100                 105                 110

Gln Gly Gln His Ile Gly Glu Met Ser Phe Leu Gln His Asn Lys Cys
        115                 120                 125

Glu Cys Arg Pro Lys Lys Asp Arg Ala Arg Gln Glu Lys Cys Asp Lys
    130                 135                 140

Pro Arg Arg Ile Asn Glu Gly Pro Phe Lys Asp Cys Gln Gln Ala Lys
145                 150                 155                 160

Glu Ala Gly His Ser Val Ser Gly Ile Tyr Met Ile Lys Pro Glu Asn
                165                 170                 175

Ser Asn Gly Pro Met Gln Leu Trp Cys Glu Asn Ser Leu Asp Pro Gly
            180                 185                 190

Gly Trp Thr Val Ile Gln Lys Arg Thr Asp Gly Ser Val Asn Phe Phe
        195                 200                 205

Arg Asn Trp Glu Asn Tyr Lys Lys Gly Phe Gly Asn Ile Asp Gly Glu
    210                 215                 220

Tyr Trp Leu Gly Leu Glu Asn Ile Tyr Met Leu Ser Asn Gln Asp Asn
225                 230                 235                 240

Tyr Lys Leu Leu Ile Glu Leu Glu Asp Trp Ser Asp Lys Lys Val Tyr
                245                 250                 255

Ala Glu Tyr Ser Ser Phe Arg Leu Glu Pro Glu Ser Glu Phe Tyr Arg
            260                 265                 270

Leu Arg Leu Gly Thr Tyr Gln Gly Asn Ala Gly Asp Ser Met Met Trp
        275                 280                 285

His Asn Gly Lys Gln Phe Thr Thr Leu Asp Arg Asp Lys Asp Met Tyr
    290                 295                 300

Ala Gly Asn Cys Ala His Phe His Lys Gly Gly Trp Trp Tyr Asn Ala
305                 310                 315                 320

Cys Ala His Ser Asn Leu Asn Gly Val Trp Tyr Arg Gly Gly His Tyr
                325                 330                 335

Arg Ser Lys His Gln Asp Gly Ile Phe Trp Ala Glu Tyr Arg Gly Gly
            340                 345                 350
```

```
Ser Tyr Ser Leu Arg Ala Val Gln Met Met Ile Lys Pro Ile Asp
        355                 360                 365

<210>  105
<211>  53
<212>  PRT
<213>  Homo sapiens

<400>  105

Lys Leu Glu Asn Tyr Ile Gln Asp Asn Met Lys Lys Glu Met Val Glu
1               5                   10                  15

Ile Gln Gln Asn Ala Val Gln Asn Gln Thr Ala Val Met Ile Glu Ile
            20                  25                  30

Gly Thr Asn Leu Leu Asn Gln Thr Ala Glu Gln Thr Arg Lys Leu Thr
        35                  40                  45

Asp Val Glu Ala Gln
    50

<210>  106
<211>  105
<212>  PRT
<213>  Homo sapiens

<400>  106

His Gly Leu Leu Gln Leu Gly Gln Gly Leu Arg Glu His Ala Glu Arg
1               5                   10                  15

Thr Arg Ser Gln Leu Ser Ala Leu Glu Arg Arg Leu Ser Ala Cys Gly
            20                  25                  30

Ser Ala Cys Gln Gly Thr Glu Gly Ser Thr Asp Leu Pro Leu Ala Pro
        35                  40                  45

Glu Ser Arg Val Asp Pro Glu Val Leu His Ser Leu Gln Thr Gln Leu
    50                  55                  60

Lys Ala Gln Asn Ser Arg Ile Gln Gln Leu Phe His Lys Val Ala Gln
65                  70                  75                  80

Gln Gln Arg His Leu Glu Lys Gln His Leu Arg Ile Gln His Leu Gln
                85                  90                  95

Ser Gln Phe Gly Leu Leu Asp His Lys
            100                 105

<210>  107
<211>  192
<212>  PRT
<213>  Homo sapiens

<400>  107

Gly Pro Ile Cys Val Asn Thr Lys Gly Gln Asp Ala Ser Thr Ile Lys
```

1 5 10 15

Asp Met Ile Thr Arg Met Asp Leu Glu Asn Leu Lys Asp Val Leu Ser
20 25 30

Arg Gln Lys Arg Glu Ile Asp Val Leu Gln Leu Val Val Asp Val Asp
35 40 45

Gly Asn Ile Val Asn Glu Val Lys Leu Leu Arg Lys Glu Ser Arg Asn
50 55 60

Met Asn Ser Arg Val Thr Gln Leu Tyr Met Gln Leu Leu His Glu Ile
65 70 75 80

Ile Arg Lys Arg Asp Asn Ser Leu Glu Leu Ser Gln Leu Glu Asn Lys
85 90 95

Ile Leu Asn Val Thr Thr Glu Met Leu Lys Met Ala Thr Arg Tyr Arg
100 105 110

Glu Leu Glu Val Lys Tyr Ala Ser Leu Thr Asp Leu Val Asn Asn Gln
115 120 125

Ser Val Met Ile Thr Leu Leu Glu Glu Gln Cys Leu Arg Ile Phe Ser
130 135 140

Arg Gln Asp Thr His Val Ser Pro Pro Leu Val Gln Val Val Pro Gln
145 150 155 160

His Ile Pro Asn Ser Gln Gln Tyr Thr Pro Gly Leu Leu Gly Gly Asn
165 170 175

Glu Ile Gln Arg Asp Pro Gly Tyr Pro Arg Asp Leu Met Pro Pro Pro
180 185 190

<210> 108
<211> 196
<212> PRT
<213> Homo sapiens

<400> 108

Pro Tyr Val Ser Asn Ala Val Gln Arg Asp Ala Pro Leu Glu Tyr Asp
1 5 10 15

Asp Ser Val Gln Arg Leu Gln Val Leu Glu Asn Ile Met Glu Asn Asn
20 25 30

Thr Gln Trp Leu Met Lys Leu Glu Asn Tyr Ile Gln Asp Asn Met Lys
35 40 45

Lys Glu Met Val Glu Ile Gln Gln Asn Ala Val Gln Asn Gln Thr Ala
50 55 60

Val Met Ile Glu Ile Gly Thr Asn Leu Leu Asn Gln Thr Ala Glu Gln
65 70 75 80

Thr Arg Lys Leu Thr Asp Val Glu Ala Gln Val Leu Asn Gln Thr Thr
85 90 95

```
Arg Leu Glu Leu Gln Leu Leu Glu His Ser Leu Ser Thr Asn Lys Leu
            100                 105                 110

Glu Lys Gln Ile Leu Asp Gln Thr Ser Glu Ile Asn Lys Leu Gln Asp
        115                 120                 125

Lys Asn Ser Phe Leu Glu Lys Lys Val Leu Ala Met Glu Asp Lys His
    130                 135                 140

Ile Ile Gln Leu Gln Ser Ile Lys Glu Glu Lys Asp Gln Leu Gln Val
145                 150                 155                 160

Leu Val Ser Lys Gln Asn Ser Ile Ile Glu Glu Leu Glu Lys Lys Ile
                165                 170                 175

Val Thr Ala Thr Val Asn Asn Ser Val Leu Gln Lys Gln Gln His Asp
            180                 185                 190

Leu Met Glu Thr
        195

<210>  109
<211>  105
<212>  PRT
<213>  Homo sapiens

<400>  109

His Gly Leu Leu Gln Leu Gly Gln Gly Leu Arg Glu His Ala Glu Arg
1               5                   10                  15

Thr Arg Ser Gln Leu Ser Ala Leu Glu Arg Arg Leu Ser Ala Cys Gly
            20                  25                  30

Ser Ala Cys Gln Gly Thr Glu Gly Ser Thr Asp Leu Pro Leu Ala Pro
        35                  40                  45

Glu Ser Arg Val Asp Pro Glu Val Leu His Ser Leu Gln Thr Gln Leu
    50                  55                  60

Lys Ala Gln Asn Ser Arg Ile Gln Gln Leu Phe His Lys Val Ala Gln
65                  70                  75                  80

Gln Gln Arg His Leu Glu Lys Gln His Leu Arg Ile Gln His Leu Gln
                85                  90                  95

Ser Gln Phe Gly Leu Leu Asp His Lys
            100                 105

<210>  110
<211>  192
<212>  PRT
<213>  Homo sapiens

<400>  110

Gly Pro Ile Cys Val Asn Thr Lys Gly Gln Asp Ala Ser Thr Ile Lys
1               5                   10                  15
```

Asp Met Ile Thr Arg Met Asp Leu Glu Asn Leu Lys Asp Val Leu Ser
20 25 30

Arg Gln Lys Arg Glu Ile Asp Val Leu Gln Leu Val Val Asp Val Asp
35 40 45

Gly Asn Ile Val Asn Glu Val Lys Leu Leu Arg Lys Glu Ser Arg Asn
50 55 60

Met Asn Ser Arg Val Thr Gln Leu Tyr Met Gln Leu Leu His Glu Ile
65 70 75 80

Ile Arg Lys Arg Asp Asn Ser Leu Glu Leu Ser Gln Leu Glu Asn Lys
85 90 95

Ile Leu Asn Val Thr Thr Glu Met Leu Lys Met Ala Thr Arg Tyr Arg
100 105 110

Glu Leu Glu Val Lys Tyr Ala Ser Leu Thr Asp Leu Val Asn Asn Gln
115 120 125

Ser Val Met Ile Thr Leu Leu Glu Glu Gln Cys Leu Arg Ile Phe Ser
130 135 140

Arg Gln Asp Thr His Val Ser Pro Pro Leu Val Gln Val Val Pro Gln
145 150 155 160

His Ile Pro Asn Ser Gln Gln Tyr Thr Pro Gly Leu Leu Gly Gly Asn
165 170 175

Glu Ile Gln Arg Asp Pro Gly Tyr Pro Arg Asp Leu Met Pro Pro Pro
180 185 190

<210> 111
<211> 135
<212> PRT
<213> Homo sapiens

<400> 111

Asp Ala Ser Thr Ile Lys Asp Met Ile Thr Arg Met Asp Leu Glu Asn
1 5 10 15

Leu Lys Asp Val Leu Ser Arg Gln Lys Arg Glu Ile Asp Val Leu Gln
20 25 30

Leu Val Val Asp Val Asp Gly Asn Ile Val Asn Glu Val Lys Leu Leu
35 40 45

Arg Lys Glu Ser Arg Asn Met Asn Ser Arg Val Thr Gln Leu Tyr Met
50 55 60

Gln Leu Leu His Glu Ile Ile Arg Lys Arg Asp Asn Ser Leu Glu Leu
65 70 75 80

Ser Gln Leu Glu Asn Lys Ile Leu Asn Val Thr Thr Glu Met Leu Lys
85 90 95

Met Ala Thr Arg Tyr Arg Glu Leu Glu Val Lys Tyr Ala Ser Leu Thr
100 105 110

Asp Leu Val Asn Asn Gln Ser Val Met Ile Thr Leu Leu Glu Glu Gln
115 120 125

Cys Leu Arg Ile Phe Ser Arg
130 135

<210> 112
<211> 101
<212> PRT
<213> Homo sapiens

<400> 112

Glu Leu Glu Leu Leu Asn Asn Glu Leu Leu Lys Gln Lys Arg Gln Ile
1 5 10 15

Glu Thr Leu Gln Gln Leu Val Glu Val Asp Gly Gly Ile Val Ser Glu
20 25 30

Val Lys Leu Leu Arg Lys Glu Ser Arg Asn Met Asn Ser Arg Val Thr
35 40 45

Gln Leu Tyr Met Gln Leu Leu His Glu Ile Ile Arg Lys Arg Asp Asn
50 55 60

Ala Leu Glu Leu Ser Gln Leu Glu Asn Arg Ile Leu Asn Gln Thr Ala
65 70 75 80

Asp Met Leu Gln Leu Ala Ser Lys Tyr Lys Asp Leu Glu His Lys Tyr
85 90 95

Gln His Leu Ala Thr
100

<210> 113
<211> 493
<212> PRT
<213> Homo sapiens

<400> 113

Met Arg Pro Leu Cys Val Thr Cys Trp Trp Leu Gly Leu Leu Ala Ala
1 5 10 15

Met Gly Ala Val Ala Gly Gln Glu Asp Gly Phe Glu Gly Thr Glu Glu
20 25 30

Gly Ser Pro Arg Glu Phe Ile Tyr Leu Asn Arg Tyr Lys Arg Ala Gly
35 40 45

Glu Ser Gln Asp Lys Cys Thr Tyr Thr Phe Ile Val Pro Gln Gln Arg
50 55 60

Val Thr Gly Ala Ile Cys Val Asn Ser Lys Glu Pro Glu Val Leu Leu
65 70 75 80

Glu Asn Arg Val His Lys Gln Glu Leu Glu Leu Leu Asn Asn Glu Leu
85 90 95

Leu Lys Gln Lys Arg Gln Ile Glu Thr Leu Gln Gln Leu Val Glu Val
100 105 110

Asp Gly Gly Ile Val Ser Glu Val Lys Leu Leu Arg Lys Glu Ser Arg
115 120 125

Asn Met Asn Ser Arg Val Thr Gln Leu Tyr Met Gln Leu Leu His Glu
130 135 140

Ile Ile Arg Lys Arg Asp Asn Ala Leu Glu Leu Ser Gln Leu Glu Asn
145 150 155 160

Arg Ile Leu Asn Gln Thr Ala Asp Met Leu Gln Leu Ala Ser Lys Tyr
165 170 175

Lys Asp Leu Glu His Lys Tyr Gln His Leu Ala Thr Leu Ala His Asn
180 185 190

Gln Ser Glu Ile Ile Ala Gln Leu Glu Glu His Cys Gln Arg Val Pro
195 200 205

Ser Ala Arg Pro Val Pro Gln Pro Pro Pro Ala Ala Pro Pro Arg Val
210 215 220

Tyr Gln Pro Pro Thr Tyr Asn Arg Ile Ile Asn Gln Ile Ser Thr Asn
225 230 235 240

Glu Ile Gln Ser Asp Gln Asn Leu Lys Val Leu Pro Pro Pro Leu Pro
245 250 255

Thr Met Pro Thr Leu Thr Ser Leu Pro Ser Ser Thr Asp Lys Pro Ser
260 265 270

Gly Pro Trp Arg Asp Cys Leu Gln Ala Leu Glu Asp Gly His Asp Thr
275 280 285

Ser Ser Ile Tyr Leu Val Lys Pro Glu Asn Thr Asn Arg Leu Met Gln
290 295 300

Val Trp Cys Asp Gln Arg His Asp Pro Gly Gly Trp Thr Val Ile Gln
305 310 315 320

Arg Arg Leu Asp Gly Ser Val Asn Phe Phe Arg Asn Trp Glu Thr Tyr
325 330 335

Lys Gln Gly Phe Gly Asn Ile Asp Gly Glu Tyr Trp Leu Gly Leu Glu
340 345 350

Asn Ile Tyr Trp Leu Thr Asn Gln Gly Asn Tyr Lys Leu Leu Val Thr
355 360 365

Met Glu Asp Trp Ser Gly Arg Lys Val Phe Ala Glu Tyr Ala Ser Phe
370 375 380

Arg Leu Glu Pro Glu Ser Glu Tyr Tyr Lys Leu Arg Leu Gly Arg Tyr
385 390 395 400

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His Gly Asn Ala Gly Asp Ser Phe Thr Trp His Asn Gly Lys Gln Phe
                405                 410                 415

Thr Thr Leu Asp Arg Asp His Asp Val Tyr Thr Gly Asn Cys Ala His
            420                 425                 430

Tyr Gln Lys Gly Gly Trp Trp Tyr Asn Ala Cys Ala His Ser Asn Leu
        435                 440                 445

Asn Gly Val Trp Tyr Arg Gly Gly His Tyr Arg Ser Arg Tyr Gln Asp
    450                 455                 460

Gly Val Tyr Trp Ala Glu Phe Arg Gly Gly Ser Tyr Ser Leu Lys Lys
465                 470                 475                 480

Val Val Met Met Ile Arg Pro Asn Pro Asn Thr Phe His
                485                 490
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<210> 114
<211> 54
<212> PRT
<213> Homo sapiens

<400> 114

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Thr Asn Lys Leu Glu Arg Gln Met Leu Met Gln Ser Arg Glu Leu Gln
1               5                   10                  15

Arg Leu Gln Gly Arg Asn Arg Ala Leu Glu Thr Arg Leu Gln Ala Leu
            20                  25                  30

Glu Ala Gln His Gln Ala Gln Leu Asn Ser Leu Gln Glu Lys Arg Glu
        35                  40                  45

Gln Leu His Ser Leu Leu
    50
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<210> 115
<211> 145
<212> PRT
<213> Homo sapiens

<400> 115

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Thr Gln Gln Val Lys Gln Leu Glu Gln Ala Leu Gln Asn Asn Thr Gln
1               5                   10                  15

Trp Leu Lys Lys Leu Glu Arg Ala Ile Lys Thr Ile Leu Arg Ser Lys
            20                  25                  30

Leu Glu Gln Val Gln Gln Gln Met Ala Gln Asn Gln Thr Ala Pro Met
        35                  40                  45

Leu Glu Leu Gly Thr Ser Leu Leu Asn Gln Thr Thr Ala Gln Ile Arg
    50                  55                  60

Lys Leu Thr Asp Met Glu Ala Gln Leu Leu Asn Gln Thr Ser Arg Met
65                  70                  75                  80
```

Asp Ala Gln Met Pro Glu Thr Phe Leu Ser Thr Asn Lys Leu Glu Asn
85 90 95

Gln Leu Leu Leu Gln Arg Gln Lys Leu Gln Gln Leu Gln Gly Gln Asn
100 105 110

Ser Ala Leu Glu Lys Arg Leu Gln Ala Leu Glu Thr Lys Gln Gln Glu
115 120 125

Glu Leu Ala Ser Ile Leu Ser Lys Lys Ala Lys Leu Leu Asn Thr Leu
130 135 140

Ser
145

<210> 116
<211> 465
<212> DNA
<213> Homo sapiens

<400> 116
gcccatggag agactgcctg caggccctgg aggatggcca cgacaccagc tccatctacc 60

tggtgaagcc ggagaacacc aaccgcctca tgcaggtgtg gtgcgaccag agacacgacc 120

ccgggggctg gaccgtcatc cagagacgcc tggatggctc tgttaacttc ttcaggaact 180

gggagacgta caagcaaggg tttgggaaca ttgacggcga atactggctg ggcctggaga 240

acatttactg gctgacgaac caaggcaact acaaactcct ggtgaccatg gaggactggt 300

ccggccgcaa agtctttgca gaatacgcca gtttccgcct ggaacctgag agcgagtatt 360

ataagctgcg gctggggcgc taccatggca atgcgggtga ctcctttaca tggcacaacg 420

gcaagcagtt caccacccag gacagagatc atgatgtcta cacag 465

<210> 117
<211> 305
<212> DNA
<213> Homo sapiens

<400> 117
ggattgccag gagctgttcc aggttgggga gaggcagagt ggactatttg aaatccagcc 60

tcaggggtct ccgccatttt tggtgaactg caagatgacc tcagatggag gctggacagt 120

aattcagagg cgccacgatg gctcagtgga cttcaaccgg ccctkggtag cctacaaggc 180

ggtggttttg ggggatcccc acggcgagtt ctggcttggg tcttggagaa aggkgcatag 240

catcacgggg ggaccggaac agccgmctgg ccgtgcaamc tgcggggact gggatgggca 300

aacgc 305

<210> 118
<211> 458
<212> DNA

<213> Homo sapiens

<220>
<221> misc_feature
<222> (224)..(244)
<223> "n" may be any nucleotide

<220>
<221> misc_feature
<222> (347)..(347)
<223> "n" may be any nucleotide

<220>
<221> misc_feature
<222> (353)..(353)
<223> "n" may be any nucleotide

<220>
<221> misc_feature
<222> (384)..(384)
<223> "n" may be any nucleotide

<220>
<221> misc_feature
<222> (400)..(400)
<223> "n" may be any nucleotide

<220>
<221> misc_feature
<222> (446)..(446)
<223> "n" may be any nucleotide

<400> 118
attataagct gcggctgggg cgataccatg gcaatgcggg tgactccttt acatggcaca 60

acggcaagca gttcaccacc ctggacagag atcatgatgt ctacacagga aactgtgccc 120

actaccagaa gggaggctgg tggtataacg cctgtgccca ctccaacctc aaccggggtc 180

tggtaccgcg ggggccatta ccggagccgc taccaggacg gagngtactg ggctgagttc 240

cgaggaggct cttactcact caaggaaacg tggtgatgat gatccgaccg aaccccaaca 300

ccttccacta agccagctcc ccctcctgac ctctccgtgg ccattgncag gangcccacc 360

ctggtcacgc tggccacagc acanagaaca actcctcacn agttcatcct gaggctggga 420

ggaccgggat gctggattct gttttnccga agtcactg 458

<210> 119
<211> 173
<212> DNA
<213> Artificial/Unknown

<220>
<221> misc_feature
<222> ()..()
<223> Synthetic

<400> 119
tataagctgc ggctggggcg ataccatggc aatgcgggtg actcctttac atggcacaac 60

ggcaagcagt tcaccaccct ggacagagat catgatgtct acacaggaaa ctgtgcccac 120

taccagaagg gaggctggtg gtataacgcc tgtgcccact ccaacctcaa ccg 173

<210> 120
<211> 638
<212> DNA
<213> Artificial/Unknown

<220>
<221> misc_feature
<222> ()..()
<223> Synthetic

<400> 120
gcccatggag agactgcctg caggccctgg aggatggcca cgacaccagc tccatctacc 60

tggtgaagcc ggagaacacc aaccgcctca tgcaggtgtg gtgcgaccag agacacgacc 120

ccgggggctg gaccgtcatc cagagacgcc tggatggctc tgttaacttc ttcaggaact 180

gggagacgta caagcaaggg tttgggaaca ttgacggcga atactggctg ggcctggaga 240

acatttactg gctgacgaac caaggcaact acaaactcct ggtgaccatg gaggactggt 300

ccggccgcaa agtctttgca gaatacgcca gtttccgcct ggaacctgag agcgagtatt 360

ataagctgcg gctggggcgc taccatggca atgcgggtga ctcctttaca tggcacaacg 420

gcaagcagtt caccacccag gacagagatc atgatgtcta cacagtataa gctgcggctg 480

gggcgatacc atggcaatgc gggtgactcc tttacatggc acaacggcaa gcagttcacc 540

accctggaca gagatcatga tgtctacaca ggaaactgtg cccactacca gaagggaggc 600

tggtggtata acgcctgtgc ccactccaac ctcaaccg 638

<210> 121
<211> 4045
<212> DNA
<213> Artificial/Unknown

<220>
<221> misc_feature
<222> ()..()
<223> Synthetic

<400> 121
gcccatggag agactgcctg caggccctgg aggatggcca cgacaccagc tccatctacc 60

tggtgaagcc ggagaacacc aaccgcctca tgcaggtgtg gtgcgaccag agacacgacc 120

ccgggggctg gaccgtcatc cagagacgcc tggatggctc tgttaacttc ttcaggaact 180

gggagacgta caagcaaggg tttgggaaca ttgacggcga atactggctg ggcctggaga 240

acatttactg gctgacgaac caaggcaact acaaactcct ggtgaccatg gaggactggt 300

ccggccgcaa agtctttgca gaatacgcca gtttccgcct ggaacctgag agcgagtatt 360

ataagctgcg gctggggcgc taccatggca atgcgggtga ctcctttaca tggcacaacg 420

gcaagcagtt caccacccag gacagagatc atgatgtcta cacagtataa gctgcggctg 480

gggcgatacc atggcaatgc gggtgactcc tttacatggc acaacggcaa gcagttcacc 540

accctggaca gagatcatga tgtctacaca ggaaactgtg cccactacca gaagggaggc 600

tggtggtata acgcctgtgc ccactccaac ctcaaccgga aaaagagagg aagagaaacc 660

atttagagac tgtgcagatg tatatcaagc tggttttaat aaaagtggaa tctacactat 720

ttatattaat aatatgccag aacccaaaaa ggtgttttgc aatatggatg tcaatggggg 780

aggttggact gtaatacaac atcgtgaaga tggaagtcta gatttccaaa gaggctggaa 840

ggaatataaa atgggttttg gaaatccctc cggtgaatat tggctgggga atgagtttat 900

ttttgccatt accagtcaga ggcagtacat gctaagaatt gagttaatgg actgggaagg 960

gaaccgagcc tattcacagt atgacagatt ccacatagga aatgaaaagc aaaactatag 1020

gttgtattta aaaggtcaca ctgggacagc aggaaaacag agcagcctga tcttacacgg 1080

tgctgatttc agcactaaag atgctgataa tgacaactgt atgtgcaaat gtgccctcat 1140

gttaacagga ggatggtggt ttgatgcttg tggcccctcc aatctaaatg gaatgttcta 1200

tactgcggga caaaaccatg gaaaactgaa tgggataaag tggcactact tcaaagggcc 1260

cagttactcc ttacgttcca caactatgat gattcgacct ttagattttt gaaagcgcaa 1320

tgtcagaagc gattatgaaa gcaacaaaga aatccggaga agctgccagg tgagaaactg 1380

tttgaaaact tcagaagcaa acaatattgt ctcccttcca gcaataagtg gtagttatgt 1440

gaagtcacca aggttcttga ccgtgaatct ggagccgttt gagttcacaa gagtctctac 1500

ttggggtgac agtgctcacg tggctcgact atagaaaact ccactgactg tcgggcttta 1560

aaaagggaag aaactgctga gcttgctgtg cttcaaacta ctactggacc ttattttgga 1620

actatggtag ccagatgata aatatggtta atttcatgta aaacagaaaa aaagagtgaa 1680

aaagagaata tacatgaaga atagaaacaa gcctgccata atcctttgga aaagatgtat 1740

tataccagtg aaaaggcgtt atatctatgc aaacctacta acaaattata ctgttgcaca 1800

attttgataa aaatttagaa cagcattgtc ctctgagttg gttaaatgtt aatggatttc 1860

agaagcctaa ttccagtatc atacttacta gttgatttct gcttacccat cttcaaatga 1920

aaattccatt tttgtaagcc ataatgaact gtagtacatg gacaataagt gtgtggtaga 1980

aacaaactcc attactctga tttttgatac agttttcaga aaaagaaatg aacataatca 2040

agtaaggatg tatgtggtga aaacttacca cccccatact atggttttca tttactctaa 2100

aaactgattg aatgatatat aaatatattt atagcctgag taaagttaaa agaatgtaaa 2160

atatatcatc aagttcttaa aataatatac atgcatttaa tatttccttt gatattatac 2220

aggaaagcaa tattttggag tatgttaagt tgaagtaaaa ccaagtactc tggagcagtt 2280

cattttacag tatctacttg catgtgtata catacatgta acttcattat tttaaaaata 2340

tttttagaac tccaatactc accctgttat gtcttgctaa tttaaatttt gctaattaac 2400

tgaaacatgc ttaccagatt cacactgttc cagtgtctat aaaagaaaca ctttgaagtc 2460

tataaaaaat aaaataatta taaatatcat tgtacatagc atgtttatat ctgcaaaaaa 2520

cctaatagct aattaatctg gaatatgcaa cattgtcctt aattgatgca aataacacaa 2580

atgctcaaag aaatctacta tatcccttaa tgaaatacat cattcttcat atatttctcc 2640

ttcagtccat tcccttaggc aatttttaat ttttaaaaat tattatcagg ggagaaaaat 2700

tggcaaaact attatatgta agggatatat atatacaaaa agaaaattaa tcatagtcac 2760

ctgactaaga aattctgact gctagttgcc ataaataact caatggaaat attcctatgg 2820

gataatgtat tttaagtgaa tttttggggt gcttgaagtt actgcattat tttatcaaga 2880

agtcttctct gcctgtaagt gtccaaggtt atgacagtaa acagttttta ttaaaacatg 2940

agtcactatg ggatgagaaa attgaaataa agctactggg cctcctctca taaaagagac 3000

agttgttggc aaggtagcaa taccagtttc aaacttggtg acttgatcca ctatgcctta 3060

atggtttcct ccatttgaga aaataaagct attcacattg ttaagaaaaa tacttttttaa 3120

agtttaccat caagtctttt ttatatttat gtgtctgtat tctacccctt tttgccttac 3180

aagtgatatt tgcaggtatt ataccatttt tctattcttg gtggcttctt catagcaggt 3240

aagcctctcc ttctaaaaac ttctcaactg ttttcattta agggaaagaa aatgagtatt 3300

ttgtcctttt gtgttcctac agacactttc ttaaaccagt ttttggataa agaatactat 3360

ttccaaactc atattacaaa aacaaaataa aataataaaa aaagaaagca tgatatttac 3420

tgttttgttg tctgggtttg agaaatgaaa tattgtttcc aattatttat aataaatcag 3480

tataaaatgt tttatgattg ttatgtgtat tatgtaatac gtacatgttt atggcaattt 3540

aacatgtgta ttcttttcat ttaattgttt cagaatagga taattaggta ttcgaatttt 3600

gtctttaaaa ttcatgtggt ttctatgcaa agttcttcat atcatcacaa cattatttga 3660

tttaaataaa attgaaagtg cacccatggc agaaggagga gggcagaatc atcacgaagt 3720

ggtgaagttc atggatgtct atcagcgcag ctactgccat ccaatcgaga ccctggtgga 3780

catcttccag gagtaccctg atgagatcga gtacatcttc aagccatcct gtgtgcccct 3840

gatgcgatgc gggggctgct gcaatgacga gggcctggag tgtgtgccca ctgaggagtc 3900

caacatcacc atgcagatta tgcggatcaa acctcaccaa ggccagcaca taggagagat 3960

gagcttccta cagcacaaca aatgtgaatg cagaccaaag aaagatagag caagacaaga 4020

aaaatgtgac aagccgaggc ggtga 4045

<210> 122
<211> 280
<212> PRT
<213> Artificial/Unknown

<220>
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<222> ()..()
<223> Synthetic

<400> 122

Met Trp Gln Ile Val Phe Phe Thr Leu Ser Cys Asp Leu Val Leu Ala
1 5 10 15

Ala Ala Tyr Asn Asn Phe Arg Lys Ser Met Asp Ser Ile Gly Lys Lys
20 25 30

Gln Tyr Gln Val Gln His Gly Ser Cys Ser Tyr Thr Phe Leu Leu Pro
35 40 45

Glu Met Asp Asn Cys Arg Ser Ser Ser Ser Pro Tyr Val Ser Asn Ala
50 55 60

Val Gln Arg Asp Ala Pro Leu Glu Tyr Asp Asp Ser Val Gln Arg Leu
65 70 75 80

Gln Val Leu Glu Asn Ile Met Glu Asn Asn Thr Gln Trp Leu Met Lys
85 90 95

Val Glu Asn Ile Ser Gln Asp Asn Met Lys Lys Glu Met Val Glu Ile
100 105 110

Gln Gln Asn Ala Val Gln Asn Gln Thr Ala Val Met Ile Glu Ile Gly
115 120 125

Thr Asn Leu Leu Asn Gln Thr Ala Glu Gln Thr Arg Lys Leu Thr Asp
130 135 140

Val Glu Ala Gln Val Leu Asn Gln Thr Thr Arg Leu Glu Leu Gln Leu
145 150 155 160

Leu Glu His Ser Leu Ser Thr Asn Lys Leu Glu Lys Gln Ile Leu Asp
165 170 175

Gln Thr Ser Glu Ile Asn Lys Leu Gln Asp Lys Asn Ser Phe Leu Glu
180 185 190

Lys Lys Val Leu Ala Met Glu Asp Lys His Ile Ile Gln Leu Gln Ser

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        195                 200                 205

Ile Lys Glu Glu Lys Asp Gln Leu Gln Val Leu Val Ser Lys Gln Asn
    210                 215                 220

Ser Ile Ile Glu Glu Leu Glu Lys Lys Ile Val Thr Ala Thr Val Asn
225                 230                 235                 240

Asn Ser Val Leu Gln Lys Gln Gln His Asp Leu Met Glu Thr Val Asn
                245                 250                 255

Asn Leu Leu Thr Met Met Ser Thr Ser Asn Ala Ala Lys Asp Pro Thr
            260                 265                 270

Val Ala Lys Glu Glu Gln Ile Ser
        275                 280

<210>  123
<211>  221
<212>  PRT
<213>  Homo sapiens

<400>  123

Glu Glu Glu Lys Pro Phe Arg Asp Cys Ala Asp Val Tyr Gln Ala Gly
1               5                   10                  15

Phe Asn Lys Ser Gly Ile Tyr Thr Ile Tyr Ile Asn Asn Met Pro Glu
            20                  25                  30

Pro Lys Lys Val Phe Cys Asn Met Asp Val Asn Gly Gly Gly Trp Thr
        35                  40                  45

Val Ile Gln His Arg Glu Asp Gly Ser Leu Asp Phe Gln Arg Gly Trp
    50                  55                  60

Lys Glu Tyr Lys Met Gly Phe Gly Asn Pro Ser Gly Glu Tyr Trp Leu
65                  70                  75                  80

Gly Asn Glu Phe Ile Phe Ala Ile Thr Ser Gln Arg Gln Tyr Met Leu
                85                  90                  95

Arg Ile Glu Leu Met Asp Trp Glu Gly Asn Arg Ala Tyr Ser Gln Tyr
            100                 105                 110

Asp Arg Phe His Ile Gly Asn Glu Lys Gln Asn Tyr Arg Leu Tyr Leu
        115                 120                 125

Lys Gly His Thr Gly Thr Ala Gly Lys Gln Ser Ser Leu Ile Leu His
    130                 135                 140

Gly Ala Asp Phe Ser Thr Lys Asp Ala Asp Asn Asp Asn Cys Met Cys
145                 150                 155                 160

Lys Cys Ala Leu Met Leu Thr Gly Gly Trp Trp Phe Asp Ala Cys Gly
                165                 170                 175

Pro Ser Asn Leu Asn Gly Met Phe Tyr Thr Ala Gly Gln Asn His Gly
            180                 185                 190
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Lys Leu Asn Gly Ile Lys Trp His Tyr Phe Lys Gly Pro Ser Tyr Ser
195 200 205

Leu Arg Ser Thr Thr Met Met Ile Arg Pro Leu Asp Phe
210 215 220

<210> 124
<211> 1506
<212> DNA
<213> Artificial/Unknown

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<222> ()..()
<223> Synthetic

<400> 124
atgtggcaga ttgttttctt tactctgagc tgtgatcttg tcttggccgc agcctataac 60

aactttcgga agagcatgga cagcatagga aagaagcaat atcaggtcca gcatgggtcc 120

tgcagctaca ctttcctcct gccagagatg gacaactgcc gctcttcctc cagcccctac 180

gtgtccaatg ctgtgcagag ggacgcgccg ctcgaatacg atgactcggt gcagaggctg 240

caagtgctgg agaacatcat ggaaaacaac actcagtggc taatgaaggt agagaatata 300

tcccaggaca acatgaagaa agaaatggta gagatacagc agaatgcagt acagaaccag 360

acggctgtga tgatagaaat agggacaaac ctgttgaacc aaacagcgga gcaaacgcgg 420

aagttaactg atgtggaagc ccaagtatta aatcagacca cgagacttga acttcagctc 480

ttggaacact ccctctcgac aaacaaattg gaaaaacaga ttttggacca gaccagtgaa 540

ataaacaaat tgcaagataa gaacagtttc ctagaaaaga aggtgctagc tatggaagac 600

aagcacatca tccaactaca gtcaataaaa gaagagaaag atcagctaca ggtgttagta 660

tccaagcaga attccatcat tgaagaactc gaaaaaaaaa tagtgactgc cacggtgaat 720

aattcagttc ttcagaagca gcaacatgat ctcatggaga cagttaataa cttactgact 780

atgatgtcca catcaaacgc agctaaggac cccactgttg ctaaagaaga acaaatcagc 840

gaggaagaga aaccatttag agactgtgca gatgtatatc aagctggttt taataaaagt 900

ggaatctaca ctatttatat taataatatg ccagaaccca aaaaggtgtt ttgcaatatg 960

gatgtcaatg ggggaggttg gactgtaata caacatcgtg aagatggaag tctagatttc 1020

caaagaggct ggaaggaata taaaatgggt tttggaaatc cctccggtga atattggctg 1080

gggaatgagt ttatttttgc cattaccagt cagaggcagt acatgctaag aattgagtta 1140

atggactggg aagggaaccg agcctattca cagtatgaca gattccacat aggaaatgaa 1200

aagcaaaact ataggttgta tttaaaaggt cacactggga cagcaggaaa acagagcagc 1260

ctgatcttac acggtgctga tttcagcact aaagatgctg ataatgacaa ctgtatgtgc 1320

aaatgtgccc tcatgttaac aggaggatgg tggtttgatg cttgtggccc ctccaatcta 1380

aatggaatgt tctatactgc gggacaaaac catggaaaac tgaatgggat aaagtggcac 1440

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ttttga 1506

<210> 125
<211> 501
<212> PRT
<213> Artificial/Unknown

<220>
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<222> ()..()
<223> Synthetic

<400> 125

Met Trp Gln Ile Val Phe Phe Thr Leu Ser Cys Asp Leu Val Leu Ala
1 5 10 15

Ala Ala Tyr Asn Asn Phe Arg Lys Ser Met Asp Ser Ile Gly Lys Lys
20 25 30

Gln Tyr Gln Val Gln His Gly Ser Cys Ser Tyr Thr Phe Leu Leu Pro
35 40 45

Glu Met Asp Asn Cys Arg Ser Ser Ser Ser Pro Tyr Val Ser Asn Ala
50 55 60

Val Gln Arg Asp Ala Pro Leu Glu Tyr Asp Asp Ser Val Gln Arg Leu
65 70 75 80

Gln Val Leu Glu Asn Ile Met Glu Asn Asn Thr Gln Trp Leu Met Lys
85 90 95

Val Glu Asn Ile Ser Gln Asp Asn Met Lys Lys Glu Met Val Glu Ile
100 105 110

Gln Gln Asn Ala Val Gln Asn Gln Thr Ala Val Met Ile Glu Ile Gly
115 120 125

Thr Asn Leu Leu Asn Gln Thr Ala Glu Gln Thr Arg Lys Leu Thr Asp
130 135 140

Val Glu Ala Gln Val Leu Asn Gln Thr Thr Arg Leu Glu Leu Gln Leu
145 150 155 160

Leu Glu His Ser Leu Ser Thr Asn Lys Leu Glu Lys Gln Ile Leu Asp
165 170 175

Gln Thr Ser Glu Ile Asn Lys Leu Gln Asp Lys Asn Ser Phe Leu Glu
180 185 190

Lys Lys Val Leu Ala Met Glu Asp Lys His Ile Ile Gln Leu Gln Ser
195 200 205

Ile Lys Glu Glu Lys Asp Gln Leu Gln Val Leu Val Ser Lys Gln Asn
210 215 220

Ser Ile Ile Glu Glu Leu Glu Lys Lys Ile Val Thr Ala Thr Val Asn
225 230 235 240

Asn Ser Val Leu Gln Lys Gln Gln His Asp Leu Met Glu Thr Val Asn
245 250 255

Asn Leu Leu Thr Met Met Ser Thr Ser Asn Ala Ala Lys Asp Pro Thr
260 265 270

Val Ala Lys Glu Glu Gln Ile Ser Glu Glu Glu Lys Pro Phe Arg Asp
275 280 285

Cys Ala Asp Val Tyr Gln Ala Gly Phe Asn Lys Ser Gly Ile Tyr Thr
290 295 300

Ile Tyr Ile Asn Asn Met Pro Glu Pro Lys Lys Val Phe Cys Asn Met
305 310 315 320

Asp Val Asn Gly Gly Gly Trp Thr Val Ile Gln His Arg Glu Asp Gly
325 330 335

Ser Leu Asp Phe Gln Arg Gly Trp Lys Glu Tyr Lys Met Gly Phe Gly
340 345 350

Asn Pro Ser Gly Glu Tyr Trp Leu Gly Asn Glu Phe Ile Phe Ala Ile
355 360 365

Thr Ser Gln Arg Gln Tyr Met Leu Arg Ile Glu Leu Met Asp Trp Glu
370 375 380

Gly Asn Arg Ala Tyr Ser Gln Tyr Asp Arg Phe His Ile Gly Asn Glu
385 390 395 400

Lys Gln Asn Tyr Arg Leu Tyr Leu Lys Gly His Thr Gly Thr Ala Gly
405 410 415

Lys Gln Ser Ser Leu Ile Leu His Gly Ala Asp Phe Ser Thr Lys Asp
420 425 430

Ala Asp Asn Asp Asn Cys Met Cys Lys Cys Ala Leu Met Leu Thr Gly
435 440 445

Gly Trp Trp Phe Asp Ala Cys Gly Pro Ser Asn Leu Asn Gly Met Phe
450 455 460

Tyr Thr Ala Gly Gln Asn His Gly Lys Leu Asn Gly Ile Lys Trp His
465 470 475 480

Tyr Phe Lys Gly Pro Ser Tyr Ser Leu Arg Ser Thr Thr Met Met Ile
485 490 495

Arg Pro Leu Asp Phe
500

<210> 126
<211> 648
<212> PRT
<213> Artificial/Unknown

<220>
<221> misc_feature
<222> ()..()
<223> Synthetic

<400> 126

Met Asn Phe Leu Leu Ser Trp Val His Trp Ser Leu Ala Leu Leu Leu
1 5 10 15

Tyr Leu His His Ala Lys Trp Ser Gln Ala Ala Pro Met Ala Glu Gly
20 25 30

Gly Gly Gln Asn His His Glu Val Val Lys Phe Met Asp Val Tyr Gln
35 40 45

Arg Ser Tyr Cys His Pro Ile Glu Thr Leu Val Asp Ile Phe Gln Glu
50 55 60

Tyr Pro Asp Glu Ile Glu Tyr Ile Phe Lys Pro Ser Cys Val Pro Leu
65 70 75 80

Met Arg Cys Gly Gly Cys Cys Asn Asp Glu Gly Leu Glu Cys Val Pro
85 90 95

Thr Glu Glu Ser Asn Ile Thr Met Gln Ile Met Arg Ile Lys Pro His
100 105 110

Gln Gly Gln His Ile Gly Glu Met Ser Phe Leu Gln His Asn Lys Cys
115 120 125

Glu Cys Arg Pro Lys Lys Asp Arg Ala Arg Gln Glu Lys Cys Asp Lys
130 135 140

Pro Arg Arg Met Trp Gln Ile Val Phe Phe Thr Leu Ser Cys Asp Leu
145 150 155 160

Val Leu Ala Ala Ala Tyr Asn Asn Phe Arg Lys Ser Met Asp Ser Ile
165 170 175

Gly Lys Lys Gln Tyr Gln Val Gln His Gly Ser Cys Ser Tyr Thr Phe
180 185 190

Leu Leu Pro Glu Met Asp Asn Cys Arg Ser Ser Ser Ser Pro Tyr Val
195 200 205

Ser Asn Ala Val Gln Arg Asp Ala Pro Leu Glu Tyr Asp Asp Ser Val
210 215 220

Gln Arg Leu Gln Val Leu Glu Asn Ile Met Glu Asn Asn Thr Gln Trp
225 230 235 240

Leu Met Lys Val Glu Asn Ile Ser Gln Asp Asn Met Lys Lys Glu Met

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                245                 250                 255

Val Glu Ile Gln Gln Asn Ala Val Gln Asn Gln Thr Ala Val Met Ile
            260                 265                 270

Glu Ile Gly Thr Asn Leu Leu Asn Gln Thr Ala Glu Gln Thr Arg Lys
        275                 280                 285

Leu Thr Asp Val Glu Ala Gln Val Leu Asn Gln Thr Thr Arg Leu Glu
    290                 295                 300

Leu Gln Leu Leu Glu His Ser Leu Ser Thr Asn Lys Leu Glu Lys Gln
305                 310                 315                 320

Ile Leu Asp Gln Thr Ser Glu Ile Asn Lys Leu Gln Asp Lys Asn Ser
                325                 330                 335

Phe Leu Glu Lys Lys Val Leu Ala Met Glu Asp Lys His Ile Ile Gln
            340                 345                 350

Leu Gln Ser Ile Lys Glu Glu Lys Asp Gln Leu Gln Val Leu Val Ser
        355                 360                 365

Lys Gln Asn Ser Ile Ile Glu Glu Leu Glu Lys Lys Ile Val Thr Ala
    370                 375                 380

Thr Val Asn Asn Ser Val Leu Gln Lys Gln Gln His Asp Leu Met Glu
385                 390                 395                 400

Thr Val Asn Asn Leu Leu Thr Met Met Ser Thr Ser Asn Ala Ala Lys
                405                 410                 415

Asp Pro Thr Val Ala Lys Glu Glu Gln Ile Ser Glu Glu Glu Lys Pro
            420                 425                 430

Phe Arg Asp Cys Ala Asp Val Tyr Gln Ala Gly Phe Asn Lys Ser Gly
        435                 440                 445

Ile Tyr Thr Ile Tyr Ile Asn Asn Met Pro Glu Pro Lys Lys Val Phe
    450                 455                 460

Cys Asn Met Asp Val Asn Gly Gly Gly Trp Thr Val Ile Gln His Arg
465                 470                 475                 480

Glu Asp Gly Ser Leu Asp Phe Gln Arg Gly Trp Lys Glu Tyr Lys Met
                485                 490                 495

Gly Phe Gly Asn Pro Ser Gly Glu Tyr Trp Leu Gly Asn Glu Phe Ile
            500                 505                 510

Phe Ala Ile Thr Ser Gln Arg Gln Tyr Met Leu Arg Ile Glu Leu Met
        515                 520                 525

Asp Trp Glu Gly Asn Arg Ala Tyr Ser Gln Tyr Asp Arg Phe His Ile
    530                 535                 540

Gly Asn Glu Lys Gln Asn Tyr Arg Leu Tyr Leu Lys Gly His Thr Gly
545                 550                 555                 560
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Thr Ala Gly Lys Gln Ser Ser Leu Ile Leu His Gly Ala Asp Phe Ser
                565                 570                 575

Thr Lys Asp Ala Asp Asn Asp Asn Cys Met Cys Lys Cys Ala Leu Met
            580                 585                 590

Leu Thr Gly Gly Trp Trp Phe Asp Ala Cys Gly Pro Ser Asn Leu Asn
        595                 600                 605

Gly Met Phe Tyr Thr Ala Gly Gln Asn His Gly Lys Leu Asn Gly Ile
    610                 615                 620

Lys Trp His Tyr Phe Lys Gly Pro Ser Tyr Ser Leu Arg Ser Thr Thr
625                 630                 635                 640

Met Met Ile Arg Pro Leu Asp Phe
                645
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